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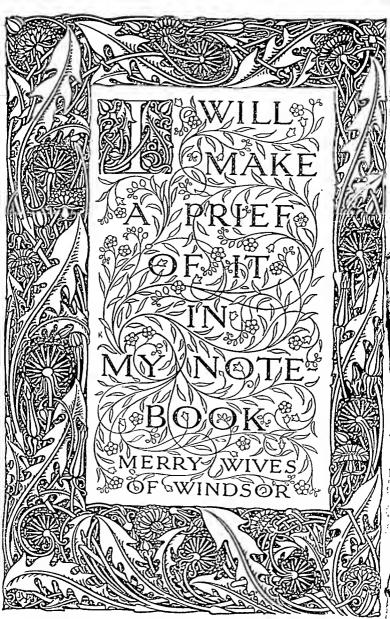
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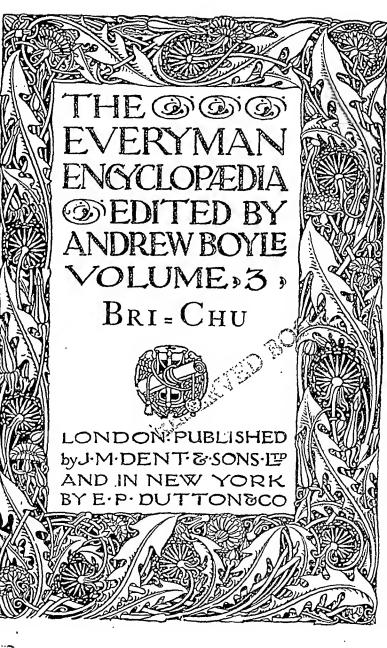
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LIST OF ABBREVIATIONS

ac., acres. A.D., after Christ. agric., agricultural. ambas., amhassador. ann., annnal. arron., arrondissement. A .- S., Anglo-Saxon. A.V., Anthorised Version. b.. horn. B.C., before Christ. Biog. Dict., Biographical Dictionary. bor., horough. bp., birthplace. C., Centigrade. c. (circa), about. cap., capital, cf., compare. co. county. com., commune. cub. ft., cubic feet. d., died. Dan., Danish. dept., department. dist., district. div., division. E., east : eastern. eccles., ecclesiastical. ed., edition; cdited. e.g., for example. Ency. Brit., Encyclopædia Britannica. Eng., English. estab., established. ct seq., and the following. F., Fahrenheit. fl., flourished. fort. tn., fortified town. Fr., French. It., leet. Ger., German. Gk., Greek. gov., government. Heb., Hobrew.

Hist., History.

i.e., that is. in., inches. inhab., inhabitants. Is., island, -s. lt., Italian. Jour., journal. Lat., Latin. lat., latitude. l. b., left bank. long., longitude. m., miles. manuf., manufacturo. mrkt. tn., market-town. Mt., mts., mount, mountain, -s. N., north : northern. N.T., New Testament. O.T., Old Testament. par., parish. parl., parliamentary. pop., population. prin., principal. prov., province. pub., published. q.r., which see. R., riv., river. r. h., right bank. Rom., Roman. R.V., Revised Version. S., south ; sonthern. sev., several. Sp., Spanish. sp. gr., specific gravity. sq. m., square miles. temp., temperature. ter., territory. tn., town. trans., translated. trib., tributary. U.S.A., United States of America. vil., village. vol., volume. W., west; western. yds., yards.

THE ENCYCLOPEDIA

Bridge, Sir Cyprian Arthur George Bleaching and dyeing are the Impor-(b. 1839), admiral, is the son of the tant industries, and there are sev. Venerable Archdeacon B. He entered paper mills. Pop. 3265. the payy in 1853, and hecame rear-Bridge of Weir, a market tn. in W. the navy in 1853, and hecame rear-admiral in 1892. During the Indian Mntiny, he was stationed in the Bay of Bengal. On his retirement, in 1904, was commander-in-chief of the China station. He served on varions com-station. He served on varions com-companies of the China station. He served on varions com-the G. & S.W. Railway, 6 m. to the W. of Paisley. Pop. 2000. Wales, on the G.W.R., 141 m. S.E. of Neath. It has various small industries, the control of the China station. The served on various com-the G. & S.W. Railway, 6 m. to the W. of Paisley. Pop. 2000.

Bridge, Sir Frederick (b. 1844), musician, born at Oldhury, Worces-tershire, on Dec. 5. When about tershire, on Dec. 5. When about fourteen years of age, he was articled to John Hopkins, organist of Rochester Cathedral, where his father held a lay clerkship. He was organist of Trinity Church, Windsor, from 1865 to 1869, and of Manchester Cathedral from 1869 to 1875. As organist at Westminster Ahhey since 1875, he has officiated on many important has officiated on many important apparatus, carriages, harness, etc. occasions, notably at Queen Victoria's Pop. 84,275. Jubilce services, and at the corona-tion of King Edward VII. and of King George V. He was knighted at Queen Victoria's Diamond Jubilee in 1897. He has held various appointments, including that of King Edward pro-fessor at London University, and he has pub. sev. cantatas, oratorios, and works on the theory of mnsic, in addition to publishing and editing a considerable amount of Church music.

Bridge-head, In fortification, is a building intended to cover the passage across a river by means of fortifications on one, or hoth hanks. Should an army require to pass over a bridge, it is very necessary to protect it from an attack hy the cnemy, as its passage an attack in the chemy, as the passage must necessarily be slow and difficult: the works of the B. must therefore he strong enough to ensure the bridge against barm by hostile firing. In earlier times, when only short-range weapons were in use, the B. formed a protection for the bridge only, but modern times and conditions have made it needful to

quarries, a tannery, etc. Pop. 6060. Bridgenorth, see BRIDGNORTH.

Bridgeport, a seaport and a city belonging to Connecticut, United States. It is situated on Long Is, Sound, and is about 60 m. N.E. from New York. It has a considerable eoasting trade, and a safe harhour for small vessels. The manufs, are sewing machines, machinery, and heating

Bridges, Robert Seymour (b. 1844), English poet, was educated at Eton, Corpus Christi College, Oxford, and later was a medical student at St. Bartholomew's, London. For some time assistant physician at the Children's Hospital, Great Ormond Street, he afterwards was on the staff at the Great Northern Hospital (nntil 1882). He wrote many dramas, as, for example, a tragedy, Nero, in 1885, and in 1890 The Return of Ulysses, but his best work will be found in his Shorter Poems, 1890. His verse is characterised by its pure, restrained style and hy excessive refinement, and withal strength of expression. Calderon was his model in his comedy entitled The Humours of the Court, 1893. A critic of no mean order, he was the anthor of Millon's Prosody, 1893, and of an Essay on John Keats, 1895. He argued that English metre depended not on the number of syllables, but on the number of stresses in a line.

bridge only, but modern times and stresses in a line. Conditions have made it needful to Bridget, St., of Sweden (c. 1302-constructfarstrongerhridge-defences. Bridge of Allen is a picturesque saint, was the dangbter of Birger Scottish health resort situated on Alian Water in Stirlingshire, about the blood-royal of Sweden. She was 3 m. from Stirling. It is noted for lts mineral saline springs, which are of fourteen, and eight children were yearly visited by numerous people. born of the marriage. In 1341 she set

out with her husband on a pilgrimago at Eton and Oxford. He studied for to the shrine of St. Jago de Compostella in Spain. She founded the order of St. Bridget or of St. Salvador, which quickly spread its influence throughout Europe. She was canonised in 1391, her feast being Oct. 9. She is chiefly remembered on account of her visions, which were trans. into Latin by her confessors.

Bridget, St., of Irsland, see BRIGIT,

Bridgeton, a city and the cap. of Cumberland co., New Jersey, United States. It is a port built on Cohansey Creek, about 40 m. from Philadelphia. There is considerable trade in glass bottles, and there are large iron

foundries. Pop. 14,225.
Bridgetown, the cap. of Barbadoes, British W. Indles. It is situated on the S.W. coast, and stretches along the N. shores of Carlisle Bay. It is surrounded by sugar plantations, and is a well-huilt tn., with largo water-works, a market, college, council bouse, and a jail. Not far from the town there are the barracks, arsenal, and also the residence of the governor. There is a fortnightly mail steamor service from B. to Southampton. Pop. 34,000.

of Ply. United

w York, Now Haven, and Hartford R., 27 m. William Whewell, D.D. 1839; (3) S. of Boston. It has manufs. of Animal and Vegetable Physiology, by cotton, iron, paper, shoes, nails, etc.; Peter Mark Roget, M.D., 1840.

Bridgewater, John (c.1532-c.96), a Pop. 7500.

May 21. During his young days he oxhibited particularly weak intellectual powers. Ho became engaged to the Duchess of Hamilton, but the match was broken off. This caused his retirement from society, and he estab. a house in the country, where he studied the possibilities of canal traffic. He designed the canal from Worsley to Manchester so that it might be utilised for the transport of coal from his Worsley estate. markable aqueduct scross the Irwell is a feature of the great achievement. With the aid of his engineer, James Brindley, he projected the canal con-necting Liverpool and Manchester. This was begun in 1762, and manifold and formidable obstacles bad to be surmounted. The canals were sold to the B. Navigation Company in 1872, and in 1887 were sold to the Manchester Ship Caual Company. He died unmarried.

Bridgswater, Francis Henry Egerton, eighth Earl of (1758-1829), son of John Egerton, Bishop of Durham, was born on Nov. 11. He was educated

the church, and was rector of Middle and Whitehureh, in Shropshire. succeeded bis brother to the title in 1823, but remained unmarried, and at his death the title became extinct. The Egerton MSS. (on the literature of France and Italy) was hequeathed by him to the British Museum along with a sum of £12,000. He also left £8000 to he paid to the author of the best treatise. On the Power, Wisdom, and Goodness of God, as manifested in the Creation. The president of the Royal Society (Davies Gilbert), in whose hands lay the decision of the merits of the works, divided the money among eight persons for eight separate treatises. These are the celebrated B. Treatises. The list of the works is as follows: (1) The Adaptation of External Nature to the Moral and Intellectual Constitution of Man, by Thomas Chalmers, D.D., 1833; (2) Chemistry, Meteorology, and Digestion, hy William Prout, M.D., 1834; (3) History, Habits, and Instincts of Animols, by William Kirby, 1835; (4) Geology and Mineralogy, by Dean Buckland, 1837; (5) The Hand, as evincting Design, hy Sir Charles Bell, 1837; (6) The Adaptotion of External Nature to the Physical Condition of separate treatises. These are the Nature to the Physical Condition of Man, by John Kidd, M.D., 1837; (7) Astronomy and General Physics, William Whewell, D.D., 1839; (8)

Catholic divine, sometimes called by the Latinised form of his name, Graduated M.A. at Aquepontanus. Oxford, 1556, and appointed rector of Lincoln College at that university, 1563-74. 1563-74. After serving as canon-residentiary of Wells, the Earl of Lainanta

St. Katharine, near Bedminster. Two years later he returned to Wells as prebendary. He published a number of historical and theological works in Latin.

Bridgswater Canal, one of the first Eng. canals to be constructed, was built by the order and at the expense of the Duke of Bridgewater, for the purpose at first of having coals conveyed from Worsley to Manchester. It was later on extended to the Mersey. See BRIDOEWATER, DUKE OF.

Bridgman, Laura (1829-1889), an American blind deaf-mute, born at Hanover, New Hampshire. Up to the age of two the child was organically normal, but she caught a severe fever which utterly destroyed her senses of hearing and seeing, and seriously impaired her nervous system. At the age of eight, through the influence of

Dr. Howe, she was admitted into the Perkins Institution for the blind. At animal's neck and thereby considerinst her intellect could only he reached through arbitrary signs, but gradually in proving his smart appearance, but the physical discomfort entailed by the device is claimed by the open control of the physical discomfort entailed by the device is claimed by the open control of the physical discomfort extraordinary progress. She subsection will be to the physical discomfort extraordinary progress. She subsection will be provided by the physical control of the physical discomfort extraordinary progress. quently learned advanced algebra, tainly the animal's neck is strained ronomy.

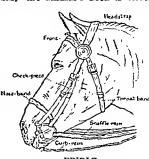
temperahymns. She was one of the first blind deafmntes to enjoy higher education. Charles Dickens has immortalised her in bls American Noies.

her in bis American 1 wies.

Bridgnorth, a th. and municipal hor, of Shropshire, England, situated on the banks of the Severn, which divides it into the High and Low the. It has a large market, an anct. tn. hall, a library, and a prison. It manufs. nalls and worsted, and does much It manufs. trade by the Severn. Pop. 6075.

Bridgwater, a scaport town in Somersetshire, England, about 30 m. from Bristol. The R. Parret flows through the middle of the tn., and is spanned by a fine iron bridge. manuf. of bath-brick is an important one, the materials for which are ob- to a position quite unnatural, and tained from the riv. hed. There are quite devoid of any freedom of move-also a few potteries. The exports are ment. Cramp from such a posture earthenware, hath-brick, cement, and the imports are coai, timber, grain, etc. Pop. 15,560.

Bridie, that portion of the harness of a horse by means of which its direction is governed and its speed regulated. It is attached to the head The ordinary single and mouth. riding bridle consists of a system of with the Assyrian device. riding bridle consists of a system of straps, one passing over the head, behind the ears, called the head-strap; another, the front strap, in front of the ears, and horizontally placed and joining the head-strap at each end; other portions include a check-piece, throat-band, nose-band, and the reins, all of which are explained by the all of which are explained by the names they bear. The driving B. has usually a pair of blinkers fixed to the check-pieces in order to restrict the vision of the horse, for its propensity for sceing objects approaching from the rear often leads to fright. Another variety of the B. is the double or Weymouth B., and is generally used in hunting, though its use in ordinary driving is increasing. It has two driving is increasing. separate bits, and is to be recognised by its chain curh which gives additional powers of control. A modification of this double B. is the Pelham. It is largely used, and consists of a single bit with an additional pair of rings fixed to the sides. Improvements regarding the appearance of the horse and also its physical comfort



BRIDLE

must cause deterioration in health. The modern bit, called a snaffic hit, consists of a smooth rounded iron, iointed in the centre, and terminating in bars as a preventive against the bit being pulled out of the mouth, and it is noteworthy that it corresponds in structure almost exactly

Bridlington, a tn. in the E. Riding of Yorks., England, situated about a mile from the coast, where is B. Quay, the port for the tn. It is 6 m from Flamboro' Head, and is a quaint irregularly built town. The bay is a fregularly built town. The bay is a fashionable watering-place, noted for its mineral springs, firm sands, and chalk flint fossils. There is plentiful accommodation for small vessels in the harbour, and a good trade in corn

is carried on. Pop. 12,620.

Bridport, a port in Dorsetshire,
England, situated between the two
streams Bride and Asker. Near the
tn. these rivs. join and form the Brit, which is a safe and roomy harbour for smaller vessels. The manufs. are thread and twine, sail-cloth and nets.

Pop. 5992.
Bridport, Sir Alexander Hood (1727-1814), admiral, became lieutenant of the Bridgewater in 1747, and for ten years served in that capacity on many ships. Whilst on the Minerva frigate he was at Quiberon Bay when Hawke gained his famous victory, 1759. In 1778, on the Robust, be took part in the battle of Ushant. The have seldom happily been made to 1759. In 1778, on the Robust, be took achieve both ends. The bearing rein, part in the battle of Ushant. The fastening to the saddle-pad and thence court-martial of Admiral Reppei reself, especially in the action known as the Giorious First of June, as second in command to Howe, and was consequently raised to the Irish peerage. In 1796-7 he controlled the war from London, whilst from 1798-1800, after the suppression of the mutiny at Spithead, he directed the siege of Brest, until St. Vincent relieved him. Hie Hie fifty-nine years' devoted service.

Brie, an agric. dist. of N. France. Its area is 2100 eq. m. It is divided into W. and E., which are respectively the papal chancery, hence the name known as the B. française and the B. champenoisc. The dist. is celebrated for its dairy produce, notably cheese.

Brie-Comte-Hobert, a tn. of France cigars, porcelain, sugar, thicagin the dept. Seine-ct-Marne, about leather, hats, etc. There are large 11 m. N.W. of Melun. It was once cattle markets. The tn. possesses the the cap, of the prov. of Brie, onc of remains of an anet. castle, now in the old dists. of France between use as a military store. Pop. 24,760. Brie-Comte-Robert, a tn. of France the rivs. Seine and Marne.

and the action, and bears the name of the solicitor and of the counsel. On anthority out the c

term corresponding to B. is memorial. (Church Brief or King'e This instrument, which is Brief now obsolete, consisted of a kind of open letter, issued ont of Chancery in the king's name and sealed with the privy seal, directed to the archhishops, bishops, clergymen, magistrates, churchwardens, and overseers of the poor throughout England. It recited that the crown thereby licensed the petitioners for the B. to collect money for the charitable purpose therein specified, and required the several persons to whom it was directed to assist in such collection. They appear to have been always subject to great abuse, and by a statute passed in Anne's reign a variety of provisions were made for their future regulation. The expensive machinery of collecting by B. is the weaver, and writer in Lanca-

sulted from this engagement. Hood, abolished by a statute passed in the by his defence of Keppel, roused continue of George IV., which abolished siderable animosity. As commander the earlier statute and enacted that of a flag-ship under Howe, he was present at the relief of Gibraltar in 1762. When war was declared with France in 1793, he distinguished himbrance in 1793, he distinguished Be, are still to be found named in one of the rubrics in the Communion Service of the Book of Common Prayer.

Brief (or Breve), Papal, a term used to denote papai documents which are drawn up without the full ceremony which the bull necessitates. The B. is furnished with a red wax stamp showviscounty was a recognition of his ing St. Peter drawing in a net and surmounted by the name of the pope (' the ring of the fisherman '). The B. was instituted to lessen the work of

> Brieg, a tn. in the Prussian prov. of Silesia, situated on the l. b. of the R. Oder. Its manufe, are linen, cotton, woollen and fabrics, machinery. cigars,

the rive. Seine and Marne. Pop. Brief, in scapper in S. Holland about 2500.

Brief, in Eng. law, the written doeument on which as basis harristers dam. It has a good harhour, an advocate causes in courts of justice. arsenal, powder magazines, and barinformation precured by the solicitor truck church is visid as a like theory. information procured by the solicitor rine's church is used as a lighthouse The people are chlefly fishermen and pilote. Pop. 4275.

Brienne, a tn. of N.E. France, in the dept. of Aube, and 1 m. from the

Auhe riv. Its pop. ie 1761 (1900). Brienne, Jean de, a Fr. knight whose early history is obscure. The King of France declared he was the. most worthy champion to defend the Holy Land. In 1209 he was crowned in Tyre and conducted a campaign against the Saracens. He captured Damietta after a siege of sixteen months, during the 5th crusade. He was elected Emperor of the East in 1229 and defeated the Greeks and Bulgarians. He continued on active military life till he was over eighty years of age, and died in 1237.

Sears of age, and died in 1201.
Brienz, a th. of Switzerland, in the canton of Bern. It is picturesquely situated on the N.E. of the lake of B., at the foot of the Brienzergrat mts. The lake is 9 m. long and 31 wide and is formed from the B. Ast. wide, and is formed from the R. Aar. Its waters are very deep, and surrounded by most beautiful scenery.

tinued till 1891. Under the pseudonym

in the dist., and there are immense hlast furnaces and iron feundrics. Fireclay is found also. There are

Pireciay is found aiso. There are potteries, brick works, and glass factories. Pop. 12,375.

Brierly, Sir Oswald Walters (1817-94), an Eng. marine painter, son of a doctor. Ho entered Sass's art-school in London, then studied navai architecture at Plymeuth, and exhibited seme ship drawings at the Royal Academy, 1839. He travelled with Benjamin Beyd in The Wanderer, and settled in Auekland for ten years. Brierly Peint is called after hlm. B. Brierly Peint is called after him. B. veyaged on the Rattlesnake, 1848, and on the Meander, 1850, with Keppel, whese heek about this cruise he illustrated, 1853. He was with Keppel during the Crimean War. In 1855 B. pub. lithegraphs, 'The English and Freneb fleets in the Baltic;' 1856 he teek sketches of the naval review at Spithcad for Queen Victoria, and was attached to the sultes of the Duke of attached to the sultes of the Duko of Edinburgh and the Princo of Wales on their tours by sca, 1867-8; appointed marine painter to the queen, 1874; knighted, 1885. B. exhibited mostly at the Royal Water-Colour Soc. His best pictures are at Melbourne and Sydney. In 1881 he was curator and Sydney. In 1881 he was curator of the Painted Hall, Greenwich. Two famous works are 'The Retreat of the Spanish Armada,' 1871, and 'The Loss of the Revenge,' 1877.

Bries (Hungarian Brezonobanya), a tn. of Hungary in the prov. of Sohl, about 24 m. E.N.E. of Neusohl. Popology 2019.

about 3942.

Briesen, a tn. in the prov. of W. Prussia, Germany, situated 24 m. N.E. hy N. from Thorn; pop. 6000.

Brieuc, Saint, a Fr. tn., cap. of the dept. Côtes-du-Nord, Brittany. It is an old tn. and possesses a cathedral as well as being the seat of a bishop.

tracted attention. In 1863 he definitely took up journalism, publishing Chronicles of Waverlow, The His first play was Bernard Palissy, Layrock of Langleyside (afterwards 1880, written in collaboration with dramatised). In 1869 he started Ben Salandri, but he did not estab. him-Brierley's Journal, a weekly, con-self as a playwright until his Ménage tinued till 1891. Under the pseudonym d'Artistes, 1890, had won consider-Ah-o'-th'-Yate, he wrote Tales and able applause at the Théâtre Libro. Ah-o'-th'-Yate, he wrote Tales and able applause at the Théâtre Libro. Sketches of Lancashire Life, Irkdale, Ab - o' - lh' - Fate in Yankeeland. He freely introduced philosophical discussions into his plays, which are, These were very popular. He visited America 1880 and 1884. A statue was social ovils of the time. Thus in erected to him after his death in Queen's Park, Manchester.

Brierley Hill, a town in Staffordshire, England. It is 2 m. from Stourbridge, and it forms a part of the bold relief the grave difficulties aris-Black Country. It is a very husy place; much coal and iron are worked in the dist., and there are immense; whilst the life of a shop cirl in Paris whilst the life of a shop girl in Paris forms the subject of his Pedite Amie, 1902. But like Dickens, his field of satire is unlimited, and he empties bis vials of ridicule and contempt on any abuse that at the time especially rouses his indignation. The vicions character of political life is accentuated in his L'Engrenage, 1894, whilst La Robe Rouge discloses the injustices of the law. Some of his other plays are: the law. Some of his other plays are: L'Evasion, 1896; Maternité, 1904; and Les Hannetons, 1906. Three of his plays, Maternity, Danaged Goods, and The Three Daughters of M. Dupont, have heen pub, in England (Fifield, London); the translation of the first-named play heing by Mrs. Bernard Shaw, and the vol. containing a long preface hy her brilliant husband on the Fr. dramatist's genius. As R. belongs to the Galsworthy. As B. helongs to the Galsworthy, Barker, Ibsen, Strindherg, and Shaw school of playwrights, it is but natural that the latter should see in B. the most considerable French dramatist since the days of Molière.

Brieve, a term used in Scottish law. Its general character is that it directs an inquiry to be made regarding certain matters. The most important inquiry now conducted by Bs. is the inquest for services of heirs. This form is necessary for feudally investing an heir in his ancestor's landed

property.

Brig, a two-masted, square-rigged vessel. It was at one time a flat open boat with sails, and from ten to fifteen oars on each 120 men. A

phrodite brig, is

vessel, square rigged on the fore-mast only, the other sails being fore and-

aft sails.

Brigade, a unit, according to Eng. military usage, consisting of a group Its port is Léqué. Pop. about 14,000: of regiments acting under a major-Brieux, Eugène (b. 1858), a Fr. dra-matist and journalist, born in Paris of poor parentage. After being editor four (occasionally three) battalions of the Nouvelliste de Rouen, he held and medical transport and supply

der-

ments, each containing three bat Scottish raiders, talions. There are three regiments of rangers, and the military manœuvres and in military twenty-eight territorial Bs. manded by colonels. All troops stationed in a district fall under the B. command of that district Irrespectively of the number and type of troops. The colonels, holding such B. command, have office for a term of five years unless they are raised to the rank of major general.

Brigade-Major, an officer according to Eng. military usages acting to the t of

'the hrigade, having under him a staff of elerks, inspects guards and directs movements. In the British army such offices are held at camps of exercise (e.g. Aldershot), or during active service and manœuvres. The officer resumes his ordinary duties when his services as B.-M. are no longer required.

Brigadier-General (or Brigadier) is the commander of a brigade. His rank varies in different countries, but in the British army oo active service it is that of major-general. In exercise-camps (e.g. Aldershot, Chatham) major-generals hold also the rank of B.-Gs.; a colonel, however, may hold the position of B.-G. during the tempo-

sions of India for a term of five years. Brigandine, so called from the hrigands, was the term used for a eoat of mall armour which was worn in the middle ages. It was made of steel plates, fastened on leather or linen, and then covered with somo material in order that the metal should not be seen.

Brigands, a name originally applied to mercenary or irregular troops. The word has become degraded in meaning and is now used to designate bands of outlaws who live by rapine and plunder. B. have usually been found to be malcontents or the remnant of a people whose country has been over-run hy invaders.

units. In other European countries gladiatorial hands in ancient Italy, the infantry B. consists of two regi-the later B. of Italy and Spain, the Australian hushments, each containing three bat-iscottish raiders, Australian hushtalions. There are three regiments of rangers, and the dacoits of Asia. cavalry in the cavalry B. The staff Mountainous countries have ever heen of a B. (infantry or cavalry) consists favourable to the practice of brigandided-camp, the B.-major, and a gac. Italy, Greece, Corsica, and Spain addede-camp, the B.-major, and a have heen the seats of most violent the word is non-existent in Britain in times of peace except during more or less in a state of flux. Committeer managing and in military managing and military managing and military managing and military managing and the dacoits of Asia. petent rural police have crushed the practice-camps. The word, however, vice out of most eivilised countries, is loo-ely applied to the Life Guards, but in Sielly, Hungary, and Turkey Horse Guards, and Foot Guards, i.e., the practice is by no means yet extended by the Household B. There are in India tinguished. Brigandage has been a favourite topie of romance, hnt the great majority of B. when judged impartially are unromantic types of eharneter.

Brigantes (from Celtie, meaning 'mountaineers'), a tribe of people inhabiting N. Britain. The district actually occupied was between the Humber, then the Ahus, and the Mersey, then the Belisama. Ehuraeum was their chief tn., and Scapula was the first Rom, to come into contact with them, defeating them dur-ing the reign of Claudius. They were not thoroughly subdued till the reign of Antoninus Pius. They had an eponymous goddess whose name was Brigantia, and mention of her is found in various inscriptions. Near the R. Barrow a brunch of the B. settled, in S.E. Ireland.

Brigantine, see BRIG.

Brigantine. See Brig.
Briggs, Professor Charles Augustus,
D.D. (b. 1841), American divine, was
aninister of the Presbyterian Church
of Roselle, New Jersey, 1869-74, and
from 1874 has heen professor at the
Union Theological Seminary. He was a famous Heb. scholar. For ten years he was ed. of the Presbylerian Review, 1880-90, and In 1892 he was tried before the New York Presbytery on a rary formation of a brigade, but he charge of heresy, and acquitted. He had questioned the truth of certain statements in the O.T., and exposed the falsehood of some scriptural tradi-tion. In 1889 he herame a priest in the Protestant Episcopal Church. A series of publications contain the results of his research and his teachings io theology.

Briggs, Henry (1556-1630), an Eng. mathematician. He was a native of Yorkshire, and born at Warloy Wood, near Halifax. In 1551 he obtained his degree at St. John's College, Cam-bridge, and seven years later obtained a fellowship. He was appointed

reader of the physical lecture, an in-stitution founded by Dr. Thomas Linaere. An important change in the compilation of logarithms brought him into close personal contact with John Napier, whose hyperbolic form Notable B. were Spartleus and his had till then sufficed. At the end of

the second visit to Napier the new children, he married Miss Martha system was pub. in 1617. He received Wood, of Bolton-le-Moors, and John system was puh. in 1617. Ho received the appointment of Savillan proiessor of geometry at Oxford in 1619. In 1624 he produced his stupendons Arithmetica Logarithmica, a work containing the logarithms of 30,000 numbers worked to fourteen places of decimals. He died on Jan. 3, 1630, and was buried at Merton Collego Chapel, Oxford. His life was noted for its abstemiousness, studious application, and contentment.

Briggs, Henry Perronet (1793-1844), painter, joined the Royal Academy as a student in 1811. Most of his pietnres have historical subjects. though, after he became an R.A. in 1832, he painted many portraits, that of Lord Eldon being considered his best. The National Gallery has ac-quired his 'Juliet and the Nnrse,' hnt his most happy Shakespearian seene is 'Othello relating his Adventures to

Desdemona.

Brighella, It. diminntive of briga, strife, brawl. Namo applied to a rustle clown, one of conventional types in old It. comedy. Trickster and piotter, always leaving the execution to Ariecchino, another comic character. Dressed in white trimmed with green.

Dressed in white trimmed with green.
Brighouse, a tn. in England situated in the W. Riding of Yorkshire,
4 m. E.S.E. from Halliax. Its prin.
industry is the making of weolien,
cotton, and silk goods. Pop. 24,000.
Bright, Sir Charles Tilston (183288), an Eng. civil engineer; started
actively on his profession, 1850. In 1853 as engineer to the Magnetic Tele-graph Company ho superintended the laying of the first deep-water cable between Great Britain and Ireland. from Portpatrick (Scotland) to Don-aghadee (Ireland). B. organised with Field and Brett the Atlantic Telegraph Company, 1856, himself hecoming chief engineer. After two disappointments, he succeeded in laying miles of submarine cable connecting Ireland and Newfoundland, thus being first te establish communication by telegraph hetween Europe and America. The first cable failed after working sixty-eight days. Later B. laid cables In the Mediterranean, Persian Gulf, and W. Indies. With Clark he discovered improved methods of insulating submarine cables. Their paper on electrical standards caused the formation of the British Association Committee on the snhjeet. B. was knighted, 1858; in 1865-8 was Liberal M.P. for Greenwich. See the Life by

his son (revised edition, 1908).

Bright, John (1811-89), Eng. statesman and orator, born at Rochdale.
His father, Jacob B., was a mill-owner there and a member of the Soelety of

B. was the second child of his marriage. He was not a strong hoy, and his education was in consequence somewhat irregular. Like Shakespearc, he knew 'little Latin and less Greek,' hnt his natural taste for English literature was fostered and directed by his mother, a woman of excellent sense and firm character. To his constant study of our best authors he owed that command of strong, pure, and racy English which distinguished him throughout his career. Ho entered his father's business, and. as a Nonconformist, took an active part in local politics, as also in the temperance movement, in connection with which his first public specches were delivered. He also helped to found a literary and philanthropic society, in whose debates he took part. In 1837 he made acquaintanee with Cobden, who was then heginning to speak against the Corn Laws, and very soon joined him, serving on the Manchester Committee which founded the Anti-Corn Law League in 1839. In that year B. married Elizaheth Priestman of Newcastle-on-Tyne, hut their happy union was cut short hy her early death in 1841. During his first week of mourning Cohden came to visit him, and, as B. atterwards said, roused him from despair by calling upon him to give himself to the service of thousands of Err, hones where mothers and obti-Eng. homes where mothers and children were dying of hunger. B. responded to the appeal, and thenceforward the two friends were the prin. figures in the league. In 1843 B. was defeated as candidate for Durham, but the victor was unseated on petition, and at the new election B. was returned. He spoke in the House of Commons for the first time on Ang. 7, 1843, and made a favourable impression, though he had at first been received with hostility by the majority of members, on account of his reputation as an 'agitator.' At that time Sir Robert Peel's 'sliding scale 'was in force, hy which the price of wheat was not allowed to fall below a certain point, roughly speak. ing sixty shillings per quarter. The league wero determined on getting rid of the duty entirely, but were making slow progress until they were seconded in 1846 by a terrible ally, the familio in Ireland caused by the potato diseaso which forced Peci first to resign, then to return as the leador of what was practically a Free-Trade ministry. In March 1846 the Corn Laws were repealed, and in July the there and a member of the Soelety of In Juno 1847 B. married Miss Friends: hls first wife dying without Leatham of Wakefield, and in July

was elected for Manchester without opposition. He had now risen to a very high parl position, and in 1849 took the degree of M.D. at Cambridge, won applause from Disraeli for a great speech on the question of financial able knowledge of the doctrines of aid for Ireland. In 1852 he was again returned for Manchester, and took gave him livings of Methiay, 1591, part in the memorahle vindication of and Barvick-in-Elmet, 1594, in York-Peel's policy, when Disraeli's attack shire. His Trealise of Melancolie, was defeated by 468 to 53. He fonght 1586, possibly suggested Burton's hard against the advocates of the more famed Anatomy. B.'s Charac-Crimean War, also against Palmer terie, a method of short, swift, and ston's action in China and Persia, and secret writing, 1588, is only partly was consequently defeated at Man-alphahetical. Willis's Stenography, chester in April 1857, but in August was returned at Birmingham without contest. In 1858 he took a leading 1884; Lewis's History of Shorthand, part in the admission of Jews to 1815.

Parliament, and in the transfer of the Bright. William (1824-1901), church parliament, and in the transfer of the government of India from the East historian, was at Rughy during Dr. India Company to the crown. Dur- Arnold's headmastership, and thence lug the Reform agitation from 1859 proceeded to University College, Oxto 1867 he was one of the leading ford. In 1846 he obtained first-class speakers, and was a chief factor in honours in classics, and trom 1021-0. the return of the Liberals to power held a fellowship of his college. In under Mr. Gladstone in 1868, when 1858 he was olliged to give up his he was made Privy Councillor and tutorship at Trinity College, Glen-President of the Board of Trade. For almond, which he had held since 1851. President of the Board of Trade. For four years he was kept out of parliament by a serious illness, but in 1873 came once more to the front Lancaster. In 1875 he was chairman of the party meeting which elected Lord Hartington as leader on tho retirement of Mr. Gladstone, and in 1878 took an impressive share in the debates on the Russo-Turkish War. His severance from Mr. Gladstono hegan on the Egyptian question in 1882, but was not complete until 1882, hut was not complete until 1885-6, when he defeated Lord Randolph Churchill at Birmingham by a large majority, and helped to crush the Home Rule Bill. In 1883 ho spoke strongly of 'the Irish rehel party, and accused them of having exhibited 'a boundless sympathy for criminals and murderers.' Refusing to apologise in the House for these words he was cnthusiastically cheered, and at the election of 1886 his influence was predominant in securing the defeat of Mr. Gladstone. This, however, he felt

keenly, and he spoke most feelingly of the breaking up of old associations. In May 1888 ho was again taken ill, and died in the March following.

Bright, Richard (1789-1858), physical as a watering-place was not assured clan, horn at Bristo Bactudied and till 1782, when the Prince of Wales

cine at Edinburgh and Vienna. In

settlement had aroused indignation. In 1868 he was appointed regius pro-Chancellor of the Duchy of fessor of eccles. history at Oxford. His lectures were remarkable for their fervour and quaint humour. From Christ 1895 he was sub-dean of Church. His chief works were A History of the Church, A.D. 1860; Chapters of Early 313-451, English Church History, 1878; and the Age of the Fathers, posthumous.

Brightlingsea, a seaport and par. in Essex, England, situated 8 m. to the S.E. of Colchester. It is on the R. Colne, at its estuary. Pop. 5000.

Brighton, a town in Bourke co...

Victoria, Australia, situated 8 m. S. of Melbourne by rail. Its fine situa-tion on Port Philip Bay has made it a fashionable watering-place.

11,000.

Brighton, a popular watering place of Sussex, England. It is situated 51 m. S. of London by the London, Brighton, and South Coast Rallway. The old name of the tn. was Brighthelmstone, which was corrupted about the beginning of the 19th century Into Brighton. The popularity of the tn.

ent a holiday there in the company the Duke of Cumberland. The prince found the climate agreeable, and built the Pavilion there in 1784 and vienna. In lection of Reports of Medical Cases, prince found the climate agreeable, in which he gave the first account of and huilt the Pavilion there in 1784 his researches on dropsy with which and took up a yearly residence in the his name is now associated. B.'s dis-th. Brighton was made a parl. bor. covery that the kidney was tho seat in 1832 and a municipal lor. In 1854. of the disease was one of the most Tho buildings of the true reimposing. Important discoveries in medicino in In 1849 the Pavilion was purchased the 19th century.

| Dy the tn., and is now ntilised as a Bright, Timothy (c. 1551-1615), an museum, picture galleries, assembly room, and concert hall. The concert hall is known as the 'Dome' on account of its magnificent glazed dome; it can accommodate 3000 people. The streets are of substantial modern architecture. The promenade is magnificent and extends along the coast for about three miles. A terrace of the finest houses in Brighton fronts the sea. There are many imposing churches in the ta., of which the Holy Trinity Church is famous owing to the preaching of F. W. Robertson. The Aquarium, one of the chief attractions of the place, which is the pro- R. perty of the corporation, has

collection, and is used as a

concert hall. The museum of

birds containing the collectic

queathed by E. T. Booth was opened gastronomist, born in 1755 at Belley.

in 1893. Preston and Queen's Parks In 1793 he hecame mayor of Belley.

sick and iame poor of every country and nation.' Brighton has no maritrado; there are, however, considerable mackerel and herring The water-supply is derived from the chalk, the sources of which are within a short distance from the town. In the summer the watering-place is the resort of fashionable crowds, chiefly from London. Hence the tn. has been called Londonsuper-Mare. The municipal bor. has

Town (the eastern suburb).

Bright's Disease, see NEPHRITIS.
Brigit, St., of Kildare (other forms, Brigid and Bridget) (c. 452-523), known as Bride of Kildare, was according to legends the daughter of a prince of Uister. She lived a life of seclusion in the woods, and hence the name Kildare—Kildara church the name Kildare-Kil-dara, church of the oak. She is said to have performed many miracles. St. B., St. Patrick, and St. Columba are the three patron saints of Ireland. The three patron saints of Ireland. The saint is known in England and Scot-land as St. Brido.

Brignoles, a tn. in the dept. of Var in S.E. France. It is famous as being the old summer residence of the counts of Provence. The surround-ing country is fertile. Plums are the

chief products—prince de Brignoles. Bril, Mattys (1550-84), an eminent Hestudied art in Italy during the pon-tificate of Gregory XIII., by whom he was appointed to paint sev. frescoes of the Vatican. Ho showed remark-able talent, but he died when comparatively young.

Brii, Paul (1554-1626), a Flemish painter. Ho was a native of Autwerp, and was led to live in Romo by the success attained by his brother Mattys, of talents inferior to those of Paul. On his brother's death Paul succeeded to his pensions, and adopted landscape painting in which be excelled. 'The Martyrdom of St. Clement' is one of his masterpleces, and it reposes in the Sala Clementina of the Vatican.

Brill, or Rhombus lævis, is a flatfish of the same genus as the turbet. maximus, but it is smaller,

aro the principal public gardens of the To escape proscription he fled from town. There is a racecourse at Kemp France to Switzerland, and subse-Tho quently to America, where he played orchestra of a New York

He returned to France on of Rolespierre and pub. his the famous Physiologic du Goût, a witty compendium on the art of dining.

Many editions and translations of the work have been published. Brilliant, a diamond cut to resemble two truncated cones placed base to

baso; tho sides are covered with

facets. Briton, a tn. of Prussia, in the prov. of Westphalia, situated 22 m. E. in the of Arnsberg. The tn. is of great anti-quity, and in the middle ages was of considerable importance. Pop. 6000.

Brimstone, see SULPHUR.

Brin, Benedetto (1833-98), an Italian naval administrator, worked at first as a naval engineer. In 1873 be be-came Under-Sceretary of State. B. was just the man to carry out the designs of Admiral Saint-Bon, the Minister of the Marine. When in 1876 Depretis appointed him Minister of the Merine, he supervised the con-struction of the great warships Italia and Dandolo. He was for eleven years in the gov., 1876-98; with Depretis and Crispi, 1884-91, and afterwards with Budini, and during that time he was responsible for the estab. of shipyards and factorics for the production of guns, steel plates, ctc. As Minister for Foreign Affairs, 1892, he accompanied the King to Potsdam. Ho may fairly be regarded as the founder of the Italian navy.

Brindaban, a tn. in the Agra and Oudh district of the United Provs., British India, on the Punjab R. It has numerous temples and is a place of pilgrimage. Pop. 22,000.

Brindisi, a seaport of S. Italy, in the prov. Lecce. Its ancient name was Brundisium. It is situated on a small cape in a bay of the Adriatic Sea. In

267 B.C. it was captured by the Roms. ! 267 B.C. It was captured by the koms.

Firm, Bernard 1en (1841-22), a from its previous occupants, the interphilologist, bornat Amsterdam. Sallenites. Twenty years later the He studied at Münster and at Bonn. Roms, estab, a colony there, and the in the year 1870 he was appointed the advanced quickly by reason of its professor of modern languages and splendid harhour. So excellent were literature at Marburg, and in 1873 he the advantages offered by it that it held the same position at Strashurg. hecame Rome's chief naval station. He has contributed much valuable while its pop. speedily reached 100,000 information on Eng. philology. Chief In Horace's Salires reference is made works: Chaucer-Studien, 1870, and to a journey to Brundisium, and it Geschichte der Englishen Literatur, witnessed the death of Virgil, in 1874. The fall of the Rom. empire caused much havoe to he wronght! within the city. It recovered slightly on its adoption by the Crusaders as their chief port under the Normans. But this prosperity was short-lived, and it soon decayed. Wars and earthquakes further aided its hastening fall, and the city underwent great damage. and a eastle huilt by Frederick II. and Charles V. An archbishop has his seat here. The fertility of the district is still remarkable in its pro-dnetion of olive-oil. The chief cxports are wine, spirits, oil, and dried years the great improvements to the quays have considerably extended its accommodation, and it is now possible for mail steamers to he pro-vided with 26 ft. of water. It would enjoy a much greater value hat for its ahandoument by the steamers of the P. and O. Steam Navigation Co. which have called at Marseilles instead since 1898. Its pop. in 1901 was 25,317.

Brindley, James (1716-72), an Eng. He was born at Thornsett, Derbyshire, and he received a very scanty education. His apprenticeship to a wheelwright seems to have nourished his mechanical genius, for he speedily set up in business for himself and became famous for the ingennity he displayed. He assisted the Duke of Bridgewater in carrying out his famous cauals, and the success of the Manchester Ship Canal must be attributed first to the indomitable genius of B. He died at Turnhurst,

Staffordshire.

Brink, Bernard Ten (1841-92), a

Brink, Jan Ten (1834-1901), a Duteh anthor, born at Appingadam. He commenced a course of theology, but found that his talents literary rather than theological. 1862 he became a teacher of Dntch at the Hague, and there wrote several books and criticisms of romance. His style is very lucid and elegant, and The finest buildings are now in ruins. his criticisms are acute and penetrat-Among them are the cathedral (1150) ling. Among his best works are a novel entitled Het rerloren Kind. 1879, and a remarkable critique on modern fiction.entitled Causerienorer Moderne Romans, 1885. B. was an omnivorous reader of European literature.

Brinvilliers, Marie Madeleine, Marporties are while, spiros, on, and uried fruits. Naturally the inauguration of quise de (c. 1630-76), a noted French the Overland Ronte revived mneh of criminal. She married the Marquis de its bygone importance, while its Brinvilliers in 1651. She learned the position as a terminus of the Mont secrets of poisoning from her lover, Cenis Railway further increased its Jean Baptiste de Gandin, Seigneur de significance. Within the last fifty Sainte-Croix, who had heard it from Sainte-Croix, who had heard it from an Italian, Exili, in the Bastille. B. poisoned her father, two horthers, and a sister, hut failed in her attempt to poison her hushand, who had been given antidotes hy Sainte-Croix. Sainte-Croix d. by accidental poisoning in 1672, and the investigations as to the cause of his death revealed B.'s crime. She fled, but was arrested near Lière, and executed in Paris, July 1676. See Pirot, La Marquise de Brinvilliers, 1883; Funek-Brentano, Le Drame des Poisons, 4th ed. 1900.

Brionic Islands, a small group in the Adriatic Sea lying near the coast of Istria opposite the tn. of Pola. These islanda have large marble quarries.

Brionne, a tn. in France, dept. Eure, 15 m. N.E. of Bernay. Pop. 3550.

Brioude, the cap. of an arron. in the dept. of Haute-Loire, France, on the R. Allier, 44 m. S.E. of Clermont. It has a church in the Romane-que style of the 12th century. Pop. (1901) 4841.

Briquette (Fr., small brick), the name given to a kind of fnel, made up Brine-shrimp, or Artemia, is the chiefly of waste coal-dust. It is not generic name of some crustacea bevery satisfactory for household purlonging to the group Pbyllopoda of poses, as it leaves a great deal of ash, the Branchlopoda. They inhabit satt but it smoulders for many hours with chiefly of waste coal-dust. It is not very satisfactory for household purlakes and some interesting experi- int going out, and can give out a very ments have been made to provide fair amount of heat. It is also used in that with an alteration in the salinity various industries. The dust is cleansed of the water one species changed to and dried and then mixed with pitch another. See W. J. Bateson's Materials in n disintegration, until the two infor the Study of Variation, 1894. The mixture is then placed in a vertical; and was posted. 1808 he commanded

ton Bay. It was first settled as a penal station in 1825 by Sir Thomas Brishane (q.v.), governor of New S. Wales. The convict station was broken up in 1839; in 1842 B. was opened for colonists: and in 1859 it was incorporated. The tn. has four divisions, North B., Sonth B., Kangaroo Point, Fortitude Valley. It is the seat of an Anglican bishop and a Roman Catholia There are many fine ings, including the Hor land Clnh, a museum, a technical

the channel of the river was dredged and decrence, so that steamers can come up the river and berth at the wharves. There is regular communi-cation by steamship with other Australian ports, B. being one of the chief centres of trade. The prin. exports are: eotton, wool, tallow, hides, sugar, and frozen meat. The climate is healthy and dry; the mean tempera-ture is 70° F. In the shade. Tho tn. Tho tn. has suffered from the flooding of the river, notably in 1893, when much of South B. was destroyed. There is a notable racecourse at EagleFarm. Pop. (1901) 54,315; with suburbs 119,428. Brisbane, Sir Charles (c.1769-1829),

college, and a school of arts. In 1893

distinguished British admiral, entered navy 1779, being present as midship-man at battle of Dominica, 1782. B. served under Rodney, Hood, and Nelson. In 1796 he was posted after heing present at Bridport's action off Genoa; was made captain for his capture of Dutch slips in Saldana He helped to cut ont the Bay. Chevrette from Camarat Bay, 1801. Commanded Arethusa, and with the Anson destroyed the Spanish Pomona and ten gunboats off Havana, 1806.

and ten guinoaes of Havada, I His finest exploit was the captu-Curação and sev. Dutch vessels, Knighted for this hy George K.C.B. 1815; vice-admiral, governor of St. Vincent, 1808-28 Ralfe's Naval Biography, 1v.; Mag. 1830.

Brisbane, Sir James (1774-1826), a British naval officer, brother of Sir Charles B. Midshipman in Queen Charlotte at Howe's glorious, First of June' victory, 1794. As lleutenant served at the reduction of the Cape of Good Hope. 1801 B. was present at the bomhardment of Copenhagen,

The mixture is then placed in a vertical and was posted. 1808 he commanded pug-mill; steam is introduced till the squadron hlockading Corfu, capthen pitch is viscid, and then the mixture is left to cool in moulds. Various other substances, such as tar, asphalt, starch, peat, etc., may he used in the tat bomhardment of Algiers and was manuf. of Bs. They are usually mado in sizes of 5 and 10 lbs.

Brishane, a seaport, cap. of Queensland, Anstralia, situated on the Brishane R., about 25 m. ahove More-ton Bay. It was first settled as a penal place of the squadron hlockading Corfu, cap. the squadron hlockading Corfu. the squadro Despatches, iv.

Brisbane, General Sir Thomas Makdougall (1773-1860), a soldier and astronomer, born at Large, Ayrshire. He served in Flanders, the W. Indies, Spain, and N. America, and in 1821 became governor of New S. Wales. The reforms he advocated in penal treatment and the encouragement he immigration were severely

hut he promoted the cul-if land. While in Australia lature, the Town Hall, the Queens- he catalogued 7385 stars, and founded an observatory at Brisbanc, a town called after his name. He also estab. observatories at Largs and at Makerstoun in Scotland, and became president of the Royal Society of Edinburgh.

Briseis, a m also known as . cause of the qua and Agamemno '

hands of Achilles when Lyrnessus was taken by the Grecks. Agamemnon took her away from Achilles, who therenpon refused for a time to appear on the field of hattle.

Brisighella, a tn. in the Italian prov. of Ravenna, situated 7 m. to the S.W. of Faenza; pop. 14,000. Brisson, Barnabé (1531-91), a Fr.

lawyer. In 1575 he became advocate under Honri III., and later was sent as an ambas. to England. After the death of Henri III. in 1539 he hecamo the leader of the people. He vacillated, however, hetween the royalists and the people, and heing suspected was arrested, in spite of a warning to fice, by order of 'The Sixteen,' and put to death at once. Among his chief writings are: De formulis et sollem-nibus Populi Romani verbis, 1583; Le Code du roy Henri III., 1609. See P. Le Bas, Dictionnaire Encyclo-

e Henri (b. 1835), a is called to the har in 1879 he was Vice-Assembly, and Presiwas Prime Minister

four years later, but it was during his presidency of the Chamber, 1895-8, and his ministry, 1898, that he distinguished himself by his judicious administration at the time of the Dreyfor trial. He was also president of the Panama Commission, and one of the three founders of La Rerue Politique.

Brisson, Mathurin Jacques (1723- ing softer, shorter, and less straight. 1806), naturalist and author, horn at The hog sheds its B. by ruhbing itself Fontenoy le Comte. He was a pro-fessor at the Collège de Navarre and at the Ecoles Centrales in Paris. Some of his hest known works are those on his Orni-

specifique Raisonné

de physique, 2nd edition, 1800. Brissot, Jean Pierre (1754-93), a Fr. Girondist. He was a native of Chartres, and the son of a Fr. inn-

After an unsuccessful attempt to found a newspaper in London, he was sent to the Bastille on a charge of sedition. His release only meant the renewal of his revolutionary activi-ties, and he was compelled to seek asylum in London. He founded the Société des Amis des Noirs as a result of his acquaintance in London with prominent abolitionists. The Revolntion found in him an ardent champion. The keys of the Bastille were given to him on the destruction of the prison, and he was elected a member of the legislative assembly and later of the National Convention. The vicissi-tudes of the following period of change and variation say his arrest with other marked Girondists, and he died with them on Oct. 31, 1793. See Mémoires de Brissot, Paris, 1830. Bristles, the strong, stiff hairs growing on the back of the hog and the

wild boar. They are used in the manufacture of hrushes, and by shoe-makers and saddlers. The quality of the B. depends on length, stiffness, colour, and straightness. The longest and strongest are yielded in relatively small proportion, and are of high value; these are not made into hrushes, hut are hought by shocmakers. As to colour, the white B. are more valuable than the black and grey ones. Great Britain imports vast quantities of hogs' B. from Russia, Germany, France, Belgium, China chiefly, with smaller supplies from Denmark, Holland, the United States, and the East Indies. The hog of cold countries yields the hest B.; those coming from Russia (with Siberia) are the most valued, but France produces excellent white ones. The long thin animal of the N. hecomes fat in

against the trees.

Bristol, a city, municipal, co., and parl. hor., and seaport of England. Most of it is in Gloucester, and part in Somersetshire. It is situated 6 m. from the mouth of the Avon. The old tn. originally occupied a position wholly on the N. of the Avon. The alteration of the course of the Frome hy digging, in 1248, a fresh channel, and the crection of a bridge spanning the river, Chartres, and the son of a Fr. Inn-keeper. After a good education he entered a lawyer's office. The influence of Rousseau is discernible Berkeleys. Later all the dists. were in his Théorie des lois criminelles, joined in 1373, though not without 1781, and Bibliolhèque philosophique violent opposition from the lords of du législaleur, 1782. The dedication of Berkeley. The tn. contains a splendid the former work was to Voltaire, who array of architectural beauties of conshowed great approval. The periodisiderable antiquity. The cathedral cals, the Mercure, the Courrier de still shows its Norman chapter-house and fine greensy. Other churches are and fine gateway. Other churches are St. James's, a Norman structure, St. St. James 8, a rounding the Temple Philip's, St. Peter's, the Temple Church, St. Stephen's, and the Church, famous edifice St. Mary Redcliff. The centres of education are Uni-College, versity College. Clifton Queen Elizabeth's Hospital, Maid's School, and Colston's Schools. The earliest mention of B. on coin is about 1000, and the wealth of the tn. at that time was chiefly derived from the export of slaves to Ireland. During the wars of Stephen it was hesieged. Henry II. gave the tn. its first charter in 1171, and also conceded the tn. of Duhlin to B. residents. A siege occurred during the reign of Edward II., who was upable II., who was unable to reduce the tn. to ohedience for four years. It was recognised as a 'staple' tn. in 1353, and enjoyed a considerable trade in wool, leather, wine, and salt. In discovery, colonisation, and marine enterprise B. played a large part. Cabot salled from the town on his voyage of the discovery of N. America in 1497, while his son, Schastian, proclaimed the city his native tn. A considerable trade with the American siderable trade with the American colonies was estah., and it was men of B. who colonised Newfoundland. In 1643 the city was captured by Prince Rupert, and later, in 1645, by Fairfax. A name honoured by a day heing set apart for his celebration is that of Colston, a philanthropist. Colston, a philanthropist. Many famous names are associated there: Sir Grocyn. Wraxall, Cottle, Lawrence, and Beddoes, while Southey and Coleridge spent many of their youthful days in the city. In 1774 Burke was returned for its representation in parliament, though he declined the honour in 1780. The famous B. china was introduced by Champion, and the genuinc article is only that produced hetween the years 1773-81. tho S., and its B. deterlorate, bccom-l Suffering and damage was caused by

theriots Inconnection with the Reform and its depth between 5 and 40 Bill. The famous Great Western, the fathoms. It is Britain's largest inject. first steamer intended for trans- Its coast-line is 220 m. Thorivs. Towy, especially

icf industries walks, choco-

boots, browing, soap, copper and lead goods, chemicals, copper and lead goods, enomicals, lron goods, chain-cables, and buttons. There are some coal-fields in the neighbourhood. Its pop. In 1901 was 328,945. See Barrott's History of Bristol, 1789; Nicholl and Taylor's Bristol, Past and Present, 1881.

Bristol, a co. in the E. of Rhode Is., Bristol, a co. in the E. of Rhode Is., and Is an and Is and

U.S.A.; area 25 sq. m. Its cap. and see port of entry has the same name, and to ls situated on Narraganeett Bay, on a v the New York, Now Haven, and Hart-ford Raligond. There is a fine harbour conand woolen goods. It is believed that the town was visited by Norsenien in 1000, and is referred to in certain leclandle sagas. Pop. (1905) 7512. Bristol, a bor. in Bucks co., Penn., U.S.A., on the Delaware R., 23 m. N.E. of Philadelphia. It has carpet,

hosiery, worsted, and wall-paper factories. The first settlement was in 1681; incorporated 1720. Pop. (1900) 7104.

Bristol, a town of Hartford co., stock. Connecticut, U.S.A., situated 1 "W.S.W. of Hartford, on the York, New Haven, and Hartford

partiy in Tennessee, and partiy in Virginia. Among its Institutions are the Presbyterian College (1868), Suilins College, and the Sonth-West Virginia Institute. The prin. manufs. are furniture, paper, tolacco, etc. Populebuling the part in Virginia, 11,000.

Bristol Bay, an arm of Behring Seallying to the N. of the peninsnia of Alaska. Communication with the

Communication with the interior is opened out for a considenable obstance as two large lakes empty themselves lote this bay. It is in lat. 57° 30' N., and long. 160° W. Bristol Channel, an inlet of the Atlantic Ocean. situated in the S.W. of England. It has S. Wales to the N.

and Devon and Somersot on the S. It

Atlantic trade, was built there in Taff, Usk, Wye, Severn, Avon, Axe, 1838. The docks have received a Parret, Taw, and Torridge flow into large amount of consideration for it. A feature of the channel is its exespecially at traordinary tides, which riso to a innal tonnage height of 35 ft. at King Road at the mouth of the Aven, and even 70 ft. nt Chepstow. This violent rise causes offineries, pipe the bore, a rush of the tide in the form of a wail of water. Its bays are Carmartieen, Swansea, Cardiff. Bideford, Ilfracombe, Minchead, Por-lock, and Bridgwater.

Brisure, a term defining a break in the direction of a parapet in fortification. It occurs in the ourtain when constructed with orillens and retired flanks.

Britain, Ancient. From the re-

is succeed on Narragansett Buy, on and Noedithle man have been distord Raliroad. There is a fine harbour covered, and by the help of geology where shipbuliding is carried on. There are manufas of rubber, ection, the periods but not the duration of and weelien geods. It is believed that the periods during which these protie town was visited by Norsemen in 1000, and is referred to in certain Ecolandie sagas. Pop. (1905) 7512.

Bristol, a ber. in Bucks co., Penn., U.S.A., on the Delaware R., 23 m. N.E. of Philadelphia. It has carnet. Ithe physical the physical

has. Both man belonged to a non-Aryan race, they w

rerk, New Haven, and Hartford.

It has manufs, of clocks, brass goods, engines, etc. Pop. 10,000.

Bristol, a town of Suillvan co., man did not become extinct, but Tennessee, U.S.A., stuated 130 m.; the Geidels, especially in Ireland. The E.N.E. from Knexville. The town, second Immigration was that of the which is on the Southern and the Norfolk and Western rallways, lies partly in Tennessee and restrict in possession of the S. and S.E. of the partly in Tennessee and restrict in possession of the S. and S.E. of the islands when the Roms, lauded there for the first time. These tribes were probably closely allled to the Celtic tribes of Gaul, and it is the contract of the tribe names we

of origin. e.g., Britain and of G modern Lincolnshire and of Gaui. The modern Lincollishire and of Gaul. The discovery of B. belongs, if it belongs to any one, to Pytheas, although B as the 'Thi Islands' had probably been known for some considerable time. The discovery that It was an is, seems to have been made by Calus Julius Agricola. The invasions of Coppen year carried out with the transfer of the control of the co Casar were carried out with the twofold idea of extending the glery of the Roman arms and of obtaining some influence over an is. which Casar regarded as being the centre of the re-eruiting ground of the losurgeots of

British

Gaul. The Roman invasions and con- heir; and Nero, after his accession, quest began in reality some 100 years had his half-brother poisoned in 55. by the hand of his general, Aulus Society, first met in 1837. Its original Plautius, A.D. 43. The conquest was president was the celebrated Thomas assumed better lines under Agricola, present office is 51 Denison House, 296 and by A.D. 80 may be said to have Vauxhall Bridge Road, London, S.W. been accomplished. The Romans un-British and Foreign Bible Society, see doubtedly taught the Britons much; BIBLE SOCIETIES. they introduced good roads; they British Association, an association built walls to keep back the maraudion of scientists whose object is to proing Pict and sea-rover. They taught mote the advancement of science in the Britons how to build houses, how all its branches. It is divided into to make pottery, and bow to make sex-sections, each of which has its own

religions.

takes a good polish, and is used for teapots, spoons, etc., which are now generally silver plated. When struck hollow, articles made of the metal silver.

Cæsar Claudius (A.D. 42-55), the son and Melbourne.

not accomplished without bloodshed, Clarkson. As its name suggests, it nor yet without a struggie, as witness; was founded with the object of put-ed the massacre at Mona of the Druids, ting an end to slavery and slave A.D. 60, and the revolt of the Iceni, when one of the four Roman legions; tecting all who were recently eman-found a grave in B. The conquest cipated in any British dominion. Its

British and Foreign Bible Society, see

to make pottery, and bow to make ser, sections, each of which has its own weapons and utensils of all descriptions of metal. But the Roman occurrence attorn was almost entirely a military and Physics; B. Chemistry; C. one, and when the Romans departed B. Geology; D. Zoology; E. Georaphy; quickly became the prey of the roving F. Economics and Statistics; G. tribes of Germany. But that the Engineering; H. Anthropology; I. British actually were so enervated and effeminated as a result of their was Sir David Brewster, though many not having had any power themselves, eminent men of science were assonable yet to be proved.

11 These sections are: A. Mathematics and Physics; B. Chemistry; C. Geology; E. Economics and Statistics; G. H. Anthropology; I. Pritish actually were so enervated and effeminated as a result of their was Sir David Brewster, though many other with its formation. The first was held at York in 1831, on the departure of the

on the departure of the constitution of the society these attacks had been made before. was decided upon, and in the follow-the English came in A.D. 449, but we ing year, at Oxford, various reports cannot say that during the next 200 were read on subjects previously years they had conquered the British, assigned. The association holds its but rule that the British put rule approach of the conference of difference of the conference of the co

rears they had conquered the British, assigned. The association holds its but rather that the British put up a annual conference at different places good fight against them during that in the United Kingdom (in 1884 and period. Many relies of Roman B. have 1909 it was held at Montreal and been found and preserved; it is also Winnipeg, Canada, and in 1905 at probable that the Romans introduced Capetown and Johannesburg, South Christianity into B. among other Africa), the tn. being determined two years in advance. The surplus of its income, varying between £1000 and Britain, Great, see GREAT BRITAIN.

Britannia, see BRITAIN, ANCIENT.

Britannia Metal, a white alloy of persons and to institutions for the tin and antimony, a usual formula being tin, 90 per cent.; antimony, Office, Burlington House, London, W. 75 per cent.; copper, 1-5 per cent.; British Astronomical Association being the trace of the trac

bismuth, I per cent.; the last addition was estab. in 1890 to stimulate the increasing the fusibility. Initially interest of the public in astronomy, used as a substitute for pewter, it is to encourage co-operation among now being rapidly displaced by nickel- amateur observers, and to circulate silver. It gives sharp castings and among those interested all fresh discoveries or other current astronomical information. Its memberalip is over renerally silver plated. When struck 1000, and it controls twelve 'observ-hollow, articles made of the metal ing sections.' Meetings are held at emit a dull sound in contrast to Sion College, E.C., but the office the sonorous tone emitted by nickel-address is 136 Rodenhurst Road, Clapham Park, London, S.W. Branches Britannicus Tiberius Britannicus have beenformed in Glasgow, Sydney,

of the Emperor Claudius and his wife British Central Africa, the name of Messalina. His title 'Britannicus' a large dist, between 8' 25' S., on Lake was given in 43, after his father's Tanganyika, and 17° 6' S., on R. Shiré, victories in Britain. After the disgrace of his mother, Claudius was prevailed upon to adopt Nero, the son British protectorates 15 ing N. of the of his second wife, Agrippina, as his Zambesi in Central Africa. It in-

British eludes the protectorates of Nyasa-coloured, and speak Bantu. The land, N.E. Rhodesia, and part of Arahs were the first foreign settlers, N.W. Rhodesia. The area is about by the 250,000 sq. m., in which dominion of the lakes of the rivers Shiré, Lnangwa, Chamberi, Luapula, Lnanga, and the Kafue. Smaller stretches of water are some five or six hundred, including the Great Mweru Swamp, Moir's Lake, and Chilwa, a salt lake. A large Italians, and Portuguese. In 1905-6 part of the country is formed of high the total value of the commerce of part of the country is formed of high the total value of the commerce of plateau land whose average alt. is the ter. reached £277,000, the chief 3500 ft. The country on the hanks of the Shiré is the only low land. All cotton, tobacco, and ivory. Light the lakes are more than 2000 ft. steamers ply up the Zambesi to Port above sea-level with the exception Herald, from which place barges are of Chilwa, which is 1946. Mt. Mlanje utilised for further transport, and also ls the highest peak in the S.E. It in the dry season when Port Herald has several eraters on its sides. Other its innecessible to all steamers. The has several craters on its sides. Other is inaccessible to all steamers. The mts. are Chongone, Dedza, Zomba, district is traversed by a trans-contichiradzuln. The chief mt. systems mental telegraph line. From Port are Shiré Highl Nyika plateau, plateau, and the Mts. The miners deposits of gold lands and to the The official cap. is silver and lead in the Nyasa-Zamhesi Zomba at the foot of Mt. Zomba water-parting; iron ore and mica Other European settlements include

hief Enropean settlement. ft. above sea-level, in the dands. It was founded in named after Livingstone's silver and lead in the Nyasa-Zamhesi water-parting; iron ore and mica everywhere; coal, limestone, mala, ehite, and petroleum The dist does act include any forest area of W. Africa. The country is generally well watered and covered in vegetation. On the Manje and Chiradzulu Mts. pean explorer to peaetrate the tropical forests are seen, but there is no indication of the great tree areas found elsewhere. Tobaceo is among the vegetable products, as is coffee, rubber, strophanthus sap (a drug), later journeys opeaed up this ground nuts, cotton, maize, rico, wheat, and many palms. Nearly all European vegetables take kindly to the sc. of the pine and development is becswax. Animal life is numerons in species and the number of its different representatives. A resemblance is noticed to the fauna of the adjacent districts save where those animals needing a drier clime are not seen here so much, for example, the oryx antelope, ostrich, and gazelle. In the Luanga valley the giraffe is found, and in the N.E. The elephant is met with in all parts, while the lion, leopard, and zehra are found in great numbers. The rhinoceros is seldom seen. Other animals are: hyena, hippopotamus, seven ceros is seidom seen. Other animals trading. The Arabs and Moslem Yaos are: hyena, hippopotamus, seven vere, however, hy 1896, completely species of monkey, crocodile, water-subded, war with the Zulus followed buck, hartcheest, gnu, and cland. The till 1898. In the previous year the sole representative of the human race consul-generalship was transferred indigenous to the country is the negro. If from Sir H. H. Johnston, who had gone to Tunis, to Mr. Alfred Sharpe, whose experiences on behalf of the natives are black and chocolate Lakes Trading Company qualified

present met by imperial grants and payments by the British South Africa Company. The attitude of the natives is friendly, and the only fault to find with this riebly endowed land is the with this riebly endowed land is the unhappy havoe wrought upon Enropean constitutions by its climate. The chief scourges are malaria, blackwater fever, and dysentery. Bibliography: Narralive of an Expedition to the Zambesi, D. and C. Livingstone; Tropical Africa, H. Drummond; Brilish Central Africa, Sir H. H. Johnston. Journal of the Atrican Society.

ston; Journal of the African Society. British Columbia, a prov. of Canada. Its boundaries are: on the N. 60° lat.; on the S. the U.S.; on the W. the Paeific Ocean and part of Alaska; and on the E. the prov. of Alherta and the Rocky Mts. Its area, including Vancouver Is. and Queen Charlotte Isles, is 390,344 sq. m. Till 1858 the Dominion meanings the Till 1858 the Dominion was under the sway of the Hudson Bay Company, but the discovery of gold and the following immigration caused it to be mado a crown colony in 1849. Recognised thus, it was leased to the Hudson Bay Company for ten years. In 1866 Vancouver was included, and on July 20, 1871, the united provs. joined the Canadian Federation. The surface presents a noble appearance. Lofty ints., wide rivs., extensive lakes Lotty mis., wide rive., extensive lakes vary the view. The Rocky Mis., whose highest peaks are Mis. Brown (16,000 ft.) and Hooker (15,700 ft.), flank the W., while the intermediate land onwards to the sea consists entirely of extensions of this mighty system. Close to the coast these spurs are called the Caseade range. Of the plentiful supply of rivers, which rise in the highlands and flow to the sea, the chief is the Fraser, 800 m. long and 600 yds. wide where it enters the sea at the E. of Georgia. This inlet separates Vancouver from the mainland. Other rivers are the Columbia (its upper course only), the Stickeen, the Skeena, and the Finlay. The climate is diverse. A climate resembling that of England is found in Vancouver and the coast opposite. For the purposes of understanding clearly the climate of the remainder it is necessary to break the country into three zones or bolts. The S. is found between 49° and 51° N. lat. Here rain and snow arc experienced in small and 60° lies the N. zone.

bim for the post. Excesses of expop. was 49,459 in 1881, and this penditure over the revenue are at return included 25,500 Indians. Topresent met by imperial grants and day it is 363,000, but the number payments by the British South Africa of Indians has dropped to insignifi-Victoria is situated on Vancance. Victoria is statuted on value ouver is, and is the eap. Nanaimo is another tn. of Vancouver. The tns. of the mainland include New Westminster, the old cap., and Vancouver. This town is the terminus of the Canadian Pacific Railway. Those Indians who lived on the coasts existed by fishing and hunting, while many were employed in the timber yards and salmon canneries. B. C. three members may be sent to the Dominion senate, while in the House of Commons seven are entitled to a seat. A lieutenant governor, appointed and remunerated by the senate, administers its affairs. Ho is assisted by forty - two members of a legislative assembly. The chief settlements are found on the E. and S. coasts, but this does not mean that elsewhere no good land is to he found. On the contrary, excellent areas are situated on the E. and N. coasts. Probabiy the finest area in the whole of the Dominion is the fertile area of the Lower Fraser. This richly en-dowed district is compact, which gives it a great value, and very rich. Further up the Fraser are large alluvial tracts. Promise of the large adoption of fruit growing has already been realised, and to-day that industry continues to advance and reap bountiful profit. Other industries are mining, fishing, and lumbering. The mineral wealth of the country is very great. The deposits include gold obtained so far almost from alluvial deposits, with rare recourse to quartz, eoal, silver, iron, copper, galena, mercury, platinum, antimony, bis-muth, plumbago, mica, and molyb-Numerous salmon candenum. neries are in operation. Among its timber are magnificent forests of Douglas pine, Menzies fir, yellow cypress, maple. The prov. is fortunate in its position regarding commercial value, and it is no doubt destined to become a medium for trade between China, Austraba, and Canada. A steamship route already connects Vancouver with Hong-Kong. British Cotton-growing Association. First formed in England June 12.

1902; incorporated by royal charter 1904, first meeting of the council tak-ing place in Manchester in Sept. Ite quantities only. Large areas of ing place in Manchester in Sept. Ite pasturage are here, though for agrie. aim was to exploit new sources of purposes irrigation is required. As cotton supply within the British far as 53° N. lat. extends the middle Empire, thus preventing the Lancazone. Here are the high mts. of W. shire cotton-trade from being almost Columbia. Large forests are found entirely dependent on the United on their slopes, and, as in the S. States crops, and protecting it from on their slopes, and, as in the S. States crops, and protecting it from region, the rainfall is small. Between the disastrous consequences of a The shortage and fluctuating prices. The

year 1904 was the worst for the cotton implying all the territory the inhab. cotton as Lancashire needs. The association bas met with valuable official support. It bas given financial assistance when urgently needed, and estab. ginning and buying centres. Professor Wyndham Dunstan of the Imperial Institute made favourable reports on the possibility of extending cotton-cultivation. It has been largely encouraged in India, the W. the association.

Airica Protectorate, the Uganda Pro-

trade since 1861, and the Lancashire of which look to the King of Great producers found it essential to seek Britain and Ireland as their ultimate supplies in other quarters hesides bead. The extent of the B. E. is con-U.S.A. Experiments bave been made veyed, to a great extent, in toe now from 1902 onwards to prove that the somewhat hackneyed phrase 'the British colonies, dependencies, and empire npon which the sun never protectorates, can produce as much sets,' yet in justice to the phrase we cotton as Lancashire needs. The must own that it is true, and that of the whole area of the land-surface of the globe the B. E. occupies nearly one quarter. In fact, of the 52,500,000 sq. m. which is roughly the extent of the land-surface of the earth, the B. E. occupies 11,306,000. sq. m. The empire is fairly evenly divided as hetween the northern and sonthern couon-cultivation. It has been between the nortbern and sonthern largely encouraged in India, the W. hemispheres, hut from the other Nigeria, E. Africa, British Guiana, and Anstralia, in many cases directly part of it lies in the eastern. The under the auspices of the association w. Indian cotton is found to he especially good, fetching even higher prices, sometimes, than the famous American grown 'Sea Island.' Head It has amongst its rivers the largest offices: 15 Cross Street, Manchester, and the greatest in the world, and For further details see publications of part of it is hounded by the greatest chain of mis. in existence. In those chain of mts. in existence. In those British East Africa, an extensive parts of the empire where large countorial ter., comprising the East colonies of white men are to be found. Africa Protectorate, the Uganda Protectorate, and the Islands of Zanzibar and Pemba (all of which are deal twith in separate articles, q.r.). It is situated between Italian Somaliland, Abyssinia, and Egyptian Sondan and the Indian Ocean on the N. and E., and Ger. East Africa, the Congo Free State, and Fr. Ubangi on the S. and W. The total area has been estimated at 1,000,000 so, m., with a pop. of over 7,000,000. The European and British pop. is increasing. The compry is watered by the Upper Nile, the and not, as formerly, of weeks or it is seen that the influence of environover 7,000,000. The European and British pop. is increasing. The conntry is watered by the Upper Nile, the Bahr-el-Ghazal, the Sohat, Tana, and Sahaki rivers. It stands on a high or platean of 3-4000 ft. The chicf lakes, part or all of which are included in the ter., are Victoria Nyanza, Alhert-Edward, Stefanie, and Rndolf. Iron and copper are found, aud the chief exports are ruhher, Ivory, gumcopal, and hides. The ter. formerly helonged to the British East Africa on, until it came under the British sphere of infinence. It was then under the immediate coutrol of the Foreign Office, but in 1905 it was taken over by the Colonial Office. Consult Purvis. Handbook of Brilish East Africa and Uganda, 1900; Lugard, British East Africa in Empire, Rise of our East African Empire, 1893.

British Empire, the name usually given to imply the full extent of the name of the British gov. The term, including hoth self-governing and crown lands, may hest be taken as a coloured pop. over 295.000,000 were coloured pop. over 295.000,000 were

of Indian emigrauts, 3,500,000 were natives of Coylon, and a further 2,500,000 were natives of other E. African possessions. Natives of the W. African colonies numbered nearly 29,000,000; the S. African colonies contained over 5,500,000 of coloured persons; other African possessions over 7,000,000, and our W. Indian possessions about 1,500,000. The coloured pop. enumerated in the Dominion Canada numbered over 167,000, the Australian Commonwealth 120,000, and in Polynesia and British New Guinca about 500,000. The total pop. of the B. E. in 1911 was given as 416,318,000, which pop. was made up in the following way: United Kingdom 45,216,665, India 314,955,240, Australia Dominion of Canada 4,455,005, 7,081,869, Union of S. Africa 5,958,599; these were the chief returns made. The five prin. divisions of the B. E. are: the United Kingdom, India, S. Africa, Australia and Canada. These are the United Einguoin, India, o. Ashan, Australia, and Canada. These are separated from each other hy the three greatest oceans, the Atlantic, the Pacific, and the Indian. The following is a short history of the acquisition of the great development of the great tion and devolopment of the great divisions, further dotalls of which should he sought under the articles relating to them.

India.—The foundations of the great empire in India were iaid during the great struggle of the 18th century between England and France for world supremacy. The foundation of the E. India Co. towards the end of the reign of Queen Elizabeth had only been a late attempt on the part of the Eng. to put themselves on an equality with the Dutch and the Fr. in the Indian Peninsula. The struggles hetween the Fr. and the Eng. in Europe, which may he said to have begun with the accession of William III. and to have ceased with the overthrow of Napoleon at Waterloo in 1815, were reproduced on a smaller scale in India, and the idea of an Indian empire under a European power may be said to have originated with Dupleix the Fr. leader, and not with the Eng. The E. India Co. had fallen indeed upon evil times during the early part of the 18th century, and Fort St. George was captured by tho Fr. in 1746, only to be restored by the Treaty of Aix-la-Chapelle In 1748. The appearance of Clive on the sceno during that struggle was the saving of the E. India Co., and during the next war he showed his skill as a general, and it was as a result of his victories hetween 1756-63 that the idea of tho adoption of sovereign rights occurred to the directors of the E. India Co.

either natives of India or descendants; country led to the gradual adoption of the same policy in other parts of the land, and gradually practically the whole peninsula passed into the hands of the British. The methods usually adopted were those of conquest or treaty, and although at the end of the 18th century the company did not hold sovereign rights over a great extent of tcr., her policy had been formulated, and that policy was continued during the 19th century. until at the present time we find that the empire of India contains the whole of the Indian Peninsula. One of the results of the Mutiny was that the E. India Co., the old 'John' Co., was dishanded, and the gov. of India passed into the hands of the Nineimperial government in 1858. teen years later, by the Royal Titles Act, the queen was proclaimed empress, and the imperial title has heen borne hy our rulers ever since. King George V. was the first reigning monarch to visit the country and to hold a coronation durbar This he did in the year following his coronation in this country, i.e. at the beginning of 1912. The following is a list of the prin. annexations which have been made of the ter, which goes to form the great Indian empire: United Provinces, 1856; Central Provinces, 1817; Eastern Bengal and Assam, 1826; Punjab, 1849; Burma, 1852; Baluchistan, 1876; N.W. Provinces, 1901. The dates given are in almost every case the date hy which final annexation or conquest

has taken place.

United South Africa.—This federation of colonics has only been in existence since 1910, when the federation was brought about by the Liberal gov. The S. African War of 1899-1902 had led to the annexation of the Transvaai and the Orango River Colony, and after the grant of responsible gov. to each of these colonies, a step which placed them on an equality with the other S. African colonies, a conference between the leading men of each colony brought about the federation of the colonies into a United S. Africa. The Dutch party were in the ascendant, and Louis Botha, one of the Boer generals who had fought continuously against the British during the late

nicr of United the colonies is best followed separatoly.

Cape Colony.—The original native tribes of S. Africa

the Hottentots. only aboriginal

who are a degenerate race, both in language and customs, and who are rapidly declining before the oncoming The heginning of sovereignty of the civilisation of the white races,

organisation and juclination for war, and are treated as a service race. The importation of slave races into Cape Colony was rendered necessary at one period in the history of the colony owing to the disinclination of the Hottentot for settled work and the iahour which was necessary in order to force him to do that work. The Bantus are a much more warlike and flerce nation, and they had when first found a crude civilisation and culture. Their war organisation was quite good, and they showed thom-selves to he very warliko. The Zuius, Bechuanas, and Kaffirs all helong to selves to ne very wariko. The Zunus, andust inthecunate renewal of the wariko bechuanas, and Kafiirs all helong to reconquered, and finally passed into this warliko race. Cape Colony was British hands in 1815. Englishmen the Cape previous to a in 1815, but no real been made. When the

The Cape of Storms, so called by Dlaz, had been renamed the Cape of Good Hope by the King of Portugal, who had hoped that the route to India would be found beyond it. His expec-tations had been realised by da Gama in 1497. No occupation of actual ter. siderable time, and no white man landed there save from necessity, and on one or two occasions on punitive expeditions. Finally, the Dutch, at war with Spain towards the close of the 16th century, and since Spain had annexed Portugal, at war with naa annexod Portugai, at war with Portugai also, hegan to use Table Bay as a froquent place of cail. Finally, in 1652, the Dutch made a settlement at Cape Town, but merely a settlement which was to be used as a port of cail, wilther slips passing on the way to India might call for supplies of vege-tables and fresh meat. Dusting the tables and fresh meat. During the rest of the century settlements gradually assumed larger proportions. The settiers were protected by the gov. on the conditions that they supplied tho ships with provisions at a fair rate. The Hottentot wars, rising from differences with the settlers, led to the beginning of the breeding of cattle by the settlers in order that the ships might not be dependent upon the natives, and the number of inmigrants continued to increase. During the next century the colony expanded considerably, and the burghers began to domand certain measures of self-gov. and a certain voice in the gov.; the Huguonot settlement which followed the revoca-tion of the Edict of Nantes contribut-ing largely to this end. The pop. con-tinued to increase, and for a period during the 18th century the Dutch were

Hottentots are the predominant Africa contributed largely to the native tribe of Cape Colony, they lack internal dissensions of the country. No real system of self-gov. was granted the colony, the trouble with the natives increased, and aithough the colonists spread themselves out aimost all over the present houndaries of the colonies, the troubles did not ceaso. The decay of the Dutch E. India Co., helped by the dissensions of the colonists, brought about the easy conquest of the colony itself by the British during the rovolutionary wars. In 1803 the colony already conquered by the British was handed back to the Dutch, but was on the almost immediate renewal of the war

and ten years later Vasco da Gama British took over Cape Colony in 1815 salled round it and reached India no real changes were made in the gov. for some very considerable time. The Secretary of State issued laws for the colonies by means of a series of proclamations, and the gov. of the colony up to 1834 was lu no wise representative. In the year 1834 Cape Colony was made into a crown colony, but the members of the legislature, as wes usual at this time, were nominees of the crown. During the period which followed there were continual dissensions between the original Dutch settlers and the new British settlers, who gradually began to in-troduce their own system and their own manners and customs into the colony. The Dutch complained of the colony. The Duvin complained of the oxcossive gult rents whileh they had to pay. Another grievance was the abolition of slave labour, for which inadequate compensation was given, and finally the Dutch, who were the chief complainants, determined to trok heyond the confines of the estah, power of Britain. In 1836 the Great Trek took place, a trek which finally resulted in the setting up of finally resulted in the setting up of nnany resunted in the setting up of the republics of the Transvaal and the Orange Free State. The colonists in 1854 were granted a first measure of self-gov., a legislature elected by the inhab, under certain conditions being set up. This did not mean the being set up. This did not mean the immodlate setting up of responsible gov., but this latter measure followed eighteon years later in the year 1872. The gov. of the colony has progressed on these lines since that time. The Dutch language has been recognised both in and out of parliament. The franchise has been altered and a Re-distribution Bill has been passed, and under the system the colony has during the 18thcentury the Dutch were on the whole prospered. Dating from ruled well and wisely by the governor, 1875 a good system of railways has Ryk Tulbagi, but the spread of the been set up, and the whole of the political hatred of Holland to S. colony is now joined up by means of

On the other hand, the English-speaking colonists supported in arms the mother country, and proved on many battlefields their loyalty: So serious

the colony being under martial law.

Natal.—The country to which we now give this name was first sighted by Vasco da Gama on Christmas Day 1497, and it was because of this that the name of Natal was given it. A strip of its coast was purchased from strip of its coast was purchased from the native tribes during the 17th cen-tury by the Dutch E. India Co., but was not extensively settled. This was due to the fact that it was populated by the warlike Bantu tribes. By the beginning of the 19th century the country had heen desolated by the attacks of the Zulus, but in spite of this roving bands of Englishmen made settlements there and gathered follow-ings of natives. These men were regarded with great disfavour by the home gov., and the first proposition for the settlement of Natal as a British colony was vetoed by the home gov. in spite of the support of the governor of the Cape, d'Urhan. Fol-lowing on this settlements hegan to he made by the Dutch farmers, and these settlements were not viewed with great favour by the Zulus, who, although they pretended to be friendly, showed their hostility later by massacring a great number of the white settlers and their followers. Finally, In 1840, the Zulus were defeated by the white settlers led by Pretorius, and the republic of Natal was estab. republic was essentially democratic, and the democracy led to frequent disturbances of the peace inside the republic, and to some difficulties with the British authorities at the Cape. In 1842 Durban was occupied by the Eng.. and an agreement was reached by which the authority of the queen was to be recognised, and in 1844 Natal was formally annexed by the British. In the meantime, many of the malcontent settlers had crossed the borders and trekked northward. The first and trekked northward. The first position of Natal under British rule was that of a dependency npon Cape Colony. It was governed by a lientenant-governor, aided by an executive conncil. The houndaries of the country were fixed, and the native question for some time occupied the thoughts of the new rulers. The white pop. of Natal grew hnt slowly, Immi-

the Western, Eastern, and Midland grants were few, and the native tribes systems. The colony suffered con increased rapidly. Between the years siderably from unrest and internal 1850-75 there were frequent troubles discension during the period of the Boer War (1899-1902), and part of the colony—the Dutch-speaking part—entrance of immigrants into the was seriously affected by that war. separate colony dependent upon the of its own. A

s set up, and did affairs become during 1900-1 and partly elected, the majority of its that the constitution of the colony members being elected. The qualificant suspended during that posted remained the same even when the colony was granted responsible gov. in 1893. Since that date Zululand has been incorporated with Natal, 1897, and Vryheid and Utrecht, 1903. The legislating counsil consists of an appara legislative council consists of an upper house nominated, with advice of the ministers, by the governor, and a legislative assembly elected according to the franchise of 1856. The colony

still has considerable difficulties to face in the question of imported free labour, and as lately as 1906 had to put down a great Zulu rising.

Orange Free State.—During the early part of the 19th century the ter. now occupied by the Orange Free State was desolated by the native tribes fleeing before the attacks of the Zulus (see British Empire) Nalal). Commandant Potgieter, who left Cape Colony in the Great Trek, is responsible for the foundation of the colony. In spite of the great difficulties to he faced from the attacks of the Matabele, and in spite of an overwhelming reverse at their hands in 1836, he managed both to make the heginnings of the colony and also to defeat the Matabele and make residence in the ter, less hazardous than previously. A form of Dutch gov. was almost immediately set up, and for some years at any rate the fortunes of the settlers in the Orange River were bound up with the fortunes of the settlers in Natal. In 1845 the ter, was definitely declared to be under British control, although no settled colony was set up and no recognised form of gov. was put into force. The settlers who objected to British rule moved out northward and settled in the Transvaal. In 1848 the Orange River sovereignty was set up by Sir Harry Smith, and was greeted by most of the settlers with enthusiasm, but by a few with dislike, since the Dutch settlers round the neighbourhood of Winburg had grown accustomed to self-gov. After some little resistance. however, they retired to the Transvaal. The first Basuto War led to the surrender of the Orange River sovereignty, and the ter. was abandoned by the Bloemfontein Convention of 1854; it was evacuated by British soldiers in

Orange Free State had been set up. Orange free State had been set up, having a lecislature and ruled by a president elected for five years, and eligible for re-election at the end of that term. His power, however, was not great, and the supreme power was in the hands of the Volksraad. Every man between the area of 16 to 60 was liable to military service, and had to be mounted and armed at his own expense. There grew up rapidly in the state three parties, those in favour of the Free State, those who wished for a return of British gov., and those who desired union with the Transvael Rerears later by an alliance between the of United South Africa.

Transval and the Orange Free State for defensive purposes, and although the Free State showed itself conciliation for the hands of the British the Free State showed itself conciliation for the Later towards Great Britain on the demand of the British the Free State showed itself conciliation of war (1899), it foined the momentous structure with the French caracter in May 1900 it was formally annexed as the Orange River and the decision virtually made by Colony, and in June 1907 it was that battle was confirmed by the granted responsible gov. It became tracty which ended the Seven Years' part of United S. Africa, 1910. War. The life of Wolfe had not been under its former title, Orange Free State. years later by an alliance between the

the same year. Within a month of British gov. gave into all the demands the evacuation the military state of the Boers, and in 1881 they were of the Boers, and in 1981 the Congranted self-gov. and by the Convention of London of 1884 they received recognition as a republic. The opening up of the gold fields led to the break up of the isolation of the Transvall. The next question of ourrealistant. The next question of our standing moment was the question of the Uitlanders. This led to many grievances and much heart-burning in S. Africa, and feeling against the Boers rose so high at the Cape that, in 1895. Jameson made his famous raid. The raid was unfortunate and did not better the position of the Uitlanders. Finally, Transval on With the Training Reposition of the position became acute, priblic. The desire for union with the in 1899, the position became acute, Transval or Cape Colony continued and ultimately the Transval denied until the presidency of Brand, under the suzerainty of the British crown, whose leadership the power of the War broke out in that year, and in colony increased enormously, and the Sept. 1900 the Transval was defear of the Basuto was to a great exclared annexed. In March 1905 the whose leadership the power of the War broke out in that year, and in colony increased enormously, and the Sept. 1900 the Transvaal was defear of the Basuto was to a great exclared annexed. In March 1905 the tent put an end to. From 1870 to the Boers received a grant of representational put and the century the Free State pro-tive gov., and in 1906 they were crossed quietly and rapidly. Very granted responsible gov. They besttle trouble occurred during this came part of United S. Africa in 1910, Parid of 1895. This was followed two Louis Botha, became the first premier very large between the of United Santh Africa. of United South Africa.

State.

The establish-the establish-the establishment of the Dominion of the Transval Republic was Canada. By the Treaty of Paris of due to the Commandant Potrieter 1763, Canada and the disputed lands about the time of the Great Trek. about the time of the Great Tres. between the Mississippi passed for ever When British sovereignty was pro-linto the hands of the Eng. The Fr. claimed over the Oranne River settle-looking were allowed to sell their ment, more immigrations from the property and return to France if they S. took place and the independence wished, but above all they were of the territory N. of the Vall was granted freedom of Catholic worship, recognised. A constitution for the jand on the whole Canada remained republic was drawn up, and the restainfied. During the American War while may divided into indical leave they remained local a largety which public was divided into judicial, legis- they remained loyal, a loyalty which lative, and fiscal divisions. In 1855 was chiefly due to the fact that the Pretorius was chosen as president. Quebec Act of 1774 confirmed their and Pretoria was selected as the seat right of worship in their old Catholic Fretorius was chosen as president. Quebec Act of 1774 confirmed their and Pretoria was selected as the seat right of worship in their old Catholic of cor. The earlier years of the repetite the natives, and one of the chief the natives, and one of the chief difficulties of the republican gov. no help to the rebels and rather rewas the difficulty of the native labour garded the possible inclusion of question. This question and the wars canada with the revolting colonies as with the Zulus led to the annexation of the Transvall by the British in 1877, and the preconcilables immediate the control of New Brunswick what 1877, and the preconcilables immediate the control of the Republic of the control of the c with the Zulus led to the annexation a misfortune which was to be avoided of the Transval by the British in at all costs. The settlement of what 1877, and the irreconcilables immedities now the prov. of New Brunswick ately commenced nerotiations which took place about this time as a result ended in open revolt. In 1880 the of the driving of the loyalists from Boers rose against the British, and America (U.S.A.). The colonists loyal the British forces were defeated at though they were, however, insisted Laings Nek and at Majnba. Now the upon a recognition of their constitu-

em he

tional rights, and they demanded self-jothers at this time are to he rehered the names of Lord Strath-

of which had a representative assembly. During the war with the U.S. hoth provs. remained loyal and sembly. helped to repel the invasions of the Americans. But following on the war we find a state of affairs which broods hut III for the mother country. eolonists were discontented and aggressive; their discontent showed itself in the rebellions of Panineau and Mackenzie, both of which were futile. But the opening of the reign of Queen Vietoria did not give prospect of an immediate relief of the situation. Bloodshed and discontent were rife: something must be done which would help in the settlement of Canada. Lord Durham, who was sent out to investi-

party for some considerable time held the balance of power, and the rioting at Montreal in 1849 led to the removal of the legislature first to Toronto and Quebee alternately, and finally to Ottawa. For some time there was a eonsiderable movement in favour of union with the U.S., but a reelproelty treaty with U.S.A. in 1854 put an end to this movement. After many difficulties and many deadlocks hetween the great political parties, the part of the country, and although the British North America Act was passed by the British parliamer's and the Dominion of Ca the eonsisting of Upper and Lower Ca New Brunswick, and Nova S came into heing. Prince Edwa:

and Newfoundland dropped o the scheme at the last moment. There were many reasons for this moment. federation, the chief perhaps heing that the fear of American aggression made the colonists feel that united action would safeguard the interests of them all. The new additions were of great value to the eclonists of Upper and Lower Canada, and tho federation went far to establish a really strong British possession in N. America. Since that time, in face of many difficulties, the Dominion has gone on incorporating new provs. and stretching her boundaries to the N. and to the W. The Hudson Bay Ter. was incorporated. British Columbia joined the Dominion, and step hy step the whole of the present ter, of the Dominion was incorporated. Between the years 1881-85, in

Lord Mount Stephen and Sir Maedonald. The latter, after into an upper and a lower prov., both leading the Conservative party in Canada successfully for many years, died in 1891. He had faced many critical movements, but he had heen true to his policy of faith in Canada and the B. E. His death broke up the Conservative party, and in 1896 Sir Wilfred Laurier and the Liberals They rewere returned to power. mained in office until 1911, when their policy of reciprocity was defeated and the Conservatives under Mr. Borden were returned. During the crisis of the S. African War the Canadians showed their loyalty and sympathy, and the deeds of valour of the Canadian contingents raised Canada to the position of one of the leading forces in the B. E.

was the last he eolonised of European. an This was probably duo not so much to the fact that Australia was unknown, as to the fact that its appearance was not at all attractive to the European colonist; the parts of Australia which would attract the settler being the S. and S.E. parts, and these did not become known for some very considerable time after the northern shores of the continent had been discovered. The Malayans never had any great desire to settle in that

ere in some respects of any of the ahoriginal tribes. They were entirely a hunting race, they had not developed on the agricultural side at all, they depended for a meagre existence upon the re-sults of their hunting and upon the natural products of the land. But at the same time, thoy had developed a system highly satisfactory to themselves by which they guarded against the failure of supplies and made each man responsible for a certain amount They developed also a of supplies. highly graduated language, to which considerable grammar attaehed itself. Altogether apart from their entire lack of knowledge of agricul-ture they had developed as far as their necessity required. The first settlements by white men seem to have been made about the middle of spite of opposition in the face of the the 16th century, so that prohably nds of years these aboriginal

occupied the whole of the

Curiously, the somewhat

was to readjust the balance of the known world, and explorers were continually looking out for the land which they felt must exist. The rivalry of the Spaniards and the Portuguese also did not tend to the rapid discovery of Australia, since by the agreement which divided the new disco-vories between them, the castern part of Australia would be the possession of The Portuguese were con-Spaln. stantly sending out exploring parties to discover this unknown world, but the Spaniards equally from their position of the western coast of S. America scnt out their expeditions also. Some of these explorers actually sailed within sight of the coasts of Australia, but failed to recognise the oxistence of the new continent; hut it was in the faith established by the explorers of this period that the eontinont of Australia existed in the theories of the geographers for the on the explorations by the Spaniards and Portuguese came the explorations by the Spaniards hy the Dutch. Whilst the Spaniards helieved the line of the Australian coast to he a line of Islands, the coast to he a nic of the conclusion Dutch came rapidly to the conclusion that it was solid land. The war that it was solid land. The war which followed between Dutch and Spaniards gave practically the whole of the Portuguese possessions in the E. Indies into the hands of the Dutch, since the Spaniards had annexed Portugal. From the E. Indian Islands the Dutch sent out many expeditions, expeditions which falled only hecause their commanders did not fully realise the significance of the discoveries which they had actually made. journey from the Cape of Good Hope to their possessions often led them to the western coast of Australia, and gradually the existence of a New gradually the existence of a New Holland sprang into being. U Diemen, many discoveries were made and many expeditions were sent out. The chief of all these expeditions was that led by the explorer Tasman, which led to the accurate charting of tho northern and western coasts of Australia, and to the discovery of Yan Diemen's Land (Tasmania) and Zealand. Even now the full significance of the discoveries was not grasped, and with the death of Van Diomen and Tasman, exploration on a large scale dies out for nearly a century. The part played by Englishmen in the exploration of the early

illogical ideas of geographers of the was made until Lieutenant James period had postulated the existence Cook was ordered on returning from of another continent, a continent that the island of Tahiti to attempt to discover the unknown continent. did so; proved that New Zealand was only a couple of Islands, and then passed on to explore Tasman's Land. He failed in this endcavour, but he discovered that part of Australia which is now known as New South Wales. But the importance of this discovery was not the roport of Cook, nor the discovery of the new land, but the report which one Joseph Banks, a scientist, made, a man who was to rise to great importance in later days. He reported upon the fertility and succulence of the land in the immediate vicinity of Botany Bay. It was by means of his reports that Australia cause into popular view as a possible settlement for English colonists. The gov. were not too anxious to retain Australia, the people were not too anxious to go out there to devolop it, but through all the early vieissitudes of the cabinet, Banks stood hy as its very good friend. The early gov. of Australia, it is no exaggeration to say, is the gov. of Joseph Banks, and he alono stood hetween the gov. and Australia when they decided to abandon it and persuaded them not The first colonial project, as far as Now South Wales was concerned, was for the settlement there of a was for the section to the or a number of the loyalists of America who had heen turned out owing to the success of the American colonists. They finally settled elsewhere, but during the negotiations for settlement in Now South Wales it had been deelded that, should they settle there, they should he protected by the British, and should also employ convicts from Britain to supply their labour. The loyalists, as has been already mentioned, sottled elsewhere, but the first activators in New South hut the first settlement in New South
Wales was a settlement of convicts.
The first British governor of New
South Wales was Captain Arthur
Philips, R.N., who had an arduous
task to face, hut was admirably fitted
for such a task. The first colonists were entirely composed of convicts, and it was with men such as these that Philips had to develop the ter. reported by Banks as fertile and easily developed. This success, as may be imagined, was not great; amongst the convicts there were none with pretensions to skill in agriculture, and above all, the land reported by Banks as so fertile turned out to be just the opposite. Still, in spite of difficulties days was small. Dampler was the some progress was made, some settle-only Englishman to bring hack any ments were founded, and the town of report of Australia, and his report Sydney hegan to ho huilt. The colony, was so had that no further attempt however, remained for some conthe whole settlement was placed on short rations. The difficulty of main-taining discipline was also a huge problem, and the mixture of the crimes for which the convicts were exported led to even greater diffi-culties. The greatest of all difficulties at the heginning, however, proved itself in the convict guards. Enlisted from men who were more or less hlackguards, officered by men who Australia as a purely regarded financial speculation, thoy speedily obtained overwhelming authority exploited the colonists to the hest of their ability, and mutinied when the offences of which they had heen guilty hrought down the censure of their superiors. Their friends at home supported them: they hoodwinked or overpowered every governor who was sent out for twenty years, and they went far to prevent any real success attending the efforts of the colonists. During this period, however, the coasts of Australia and Tasmania were explored. The fallacy as to Tasmania being part of the mainland was exploded, and developments in the number of convict settlements resulted from the new discoveries. The names which are most famous as far as this work is concerned are those of Bass and Flinders. Many of the settlements made were, however, nnsuitable, and the settlers soon left them in disgust. The founder of Australia's greatest industry was one John McArthur. He experimented with the Spanish merino sheep, found the country admirably suited for the rearing of such animals, and pro-ceeded to make this sheep industry the essential industry of Australia. He took the part of the convict guards against the governor, Bligh, and had him imprisoned by the mutineers for two years, during which time the convict guards were the sole rulers of the colony. This mutiny brought matters to a head in Australla, the home gov. adopted a fresh policy, and the governors appointed in future were not sailors hnt soldiers. The new policy also was a more reasonable one. Australia was no longer to he regarded as a huge gaol. The convicts sent out there might speedily by good conduct earn their release and become property-owning citizens themselves, but the policy of cmancipation was fairly sure to lead to trouble since military officers still formed the backhone of what society there was. Hence when Macquarie,

siderable time far from being self-jopenly their resentment. The emaneisupporting, supplies were imported pated convicts under the governor-from China and S. Africa, and often ship of Macquarie hegan to build up a new society, and whereas many results were good, on the other hand many of the attempts were failures. In the meantime the exploration of Australia went on apace, and especially under the governorship of Brisbane was the colony developed. The next governor, Darbing, was given great powers, and the colony was re-modelled, heing now made into a colony inhabited by freemen to whom the convicts were sent as servants. But Darling was opposed to the policy of emancipation, and the cry for real liberty in the colony was soon so great that Darling was recalled in 1831. The policy of emancipation was continued, the constant stream of immigrants from England helped on the policy, and the emancipated convicts were soon, by their good behaviour, able to wear down the stigma of their Tasmania was made into the real penal settlement, and this quietened down into an orderly and disciplined country under the governorship of the somewhat autocratic governor Arthur. With the development of New South Waies went also the development of other parts of Australia. The Fr. had long desired to make settlements on the continent, and the British gov. had to hasten in order to prevent their doing so. The western parts of Australia were occupied hetween 1820-30, and the gov. adopted in part the ideas of James Peel. They advertised for settlers, and to each of these settlers was to be given forty acres of land for every £3 or £3 worth of goods that the settlers took out with them. The rush of immigrants to Australia was in proportion to the cheapness of the land, but the policy of land giving was bad, and the smaller settlers quickly found themselves with property miles from any town and of bad quality, whilst the larger landowners, given the first chance, had appropriated the land in the vicinity of the towns and of the hest quality. Many experiments were tried, and another great problem which hegan now to face the white pop. of Australia was the lack of servants, and hence the necessity for an increased immigration which would supply that need, The experiments tried on this occasion were not worthy of success, and further, did not succeed. These ex-periments in land and in the servant question had been carried out respec tively in Western and Southern Australia. But now under the able tralia. the governor, an out-and-out emancl- governorship of Bourke and Gipps in pist, began to carry his policy to New South Wales that colony was extreme limits, the officials showed beginning to demand that it should governorship of Bourke and Gipps in New South Wales that colony was

be given self-gov., and that England | velopment of hithertounknown lands. should cease to send convicts to it.

The transportation of convicts to the mainland of Australia ceased in 1840, and the convicts were replaced by means of a system of assisted immi- towards the closer union of the colonies grations. In the meantime, in spite of in a commonwealth, an object which a considerable opposition. Port Philip was brought to a successful issue at a considerable opposition. Port Philip was brought to a successful issue at had been estable, and a year later the beginning of the present century, came the establishment of the town of Melhourne. By 1842 New South Wales problems of the land question, educable developed to such an extent that tion, railways, and immigration to she was granted a constitution, and a settle. The land question, which was council of whom two-thirds were to be to Australia the most important, elected by certain specifically quali-fied inhabitants was estab. The land was upset by the gold rushes, but the question was naturally the greatest Torrens Act did much to settle dis-question which came before this puted claims to land. The question of eouncil, and this led to many quarrels. The next question which agitated New South Wales was the attempt of the home gov. to commence again sending convicts to the colony. The attempt was resented, the convicts were not allowed to land, and the colonists definitely decided that in future no convicts would be allowed to be transported to Australia. Following on this came the freeing of Tasmania from the convicts which had previously been sent to it. Tasmania having, in fact, been regarded as the penal settlement even of Australia. In 1851 the colonies which were in existence were: New South Wales, Tasmania, S. Australia, and Victoria, the latter having but recently objected to the union with New South Wales, and had been successful in obtaining separation. The gold rushes which commenced in 1848 were not a source of undiluted benefit to the Australian gov. In many cases the diggers were quiet and peaceable, but amongst them also there were men of little or no principle, and also nien of very advanced political principles! who, having been unsuccessful in carrying out their ideas in their own 111

Since the grant of self-government to the Australian colonies many grave problems have had to be faced and solved. The tendency set in rapidly puted claims to land. The question of education provoked serious contro-versy, but was finally settled by means of a compulsory state education measure which is strictly undenominational. Under certain conditions ministers of the gospel are allowed to instruct the children of their ool hours or in t of school hours no statepaid teacher is allowed to teach denominational Scripture. In the matter of railways it was only natural that in order that the country should be fully developed the railway sys-tem would have to be perfected. The various states began after 1870 to various states began after 1870 to develop the railways, and since that date nearly 20,000 m. of railways have been constructed, the money borrowed for the purpose being a heavy burden to the population, but the benefits which accrued being enormous. Most of the railways converge towards the capital. The ques-tion of immigration and a 'white Australia ' is one of the most difficult problems which the Australians and the B. E. have to face. The Australians are quite open on the queswho, having been unsuccessini in training are quite open on the quescarrying out their ideas in their own tion. They say that they only desire country, attempted to do so in Australia. Frequent riots took place with the area took place with the area took place with the area took place with the same ideals as themselves, capable of dealing, the most famous. They refuse to admit on equal terms of these being the Eureka stockade! Aslatics, especially Japanese and episode. The gold rushes were, how-Chinese, who, as they point out, the contract of the process of the point out, the contract of the point out, the point of the point out, the point out the poin benefit to practically all the Aus-civilisation. That this attitude tralian colonies, which benefited by threatens without a doubt the imtrainin colonies, which herienced by intracting without a doubt the introduction the introduction in the interest of unity of empire is these rushes brought about. In 1855 openly recognised, but on the other S. Australia received a constitution, and in 1859 we get the establishment dustralian point of view. They are of Queensland. Exploration had, in the interest of the contraction of the c or queensiand. Exploration had, in themselves prepared to admit that the meantime continued to a great extent, and the litherto unknown parts of their exclusion tests are to a great tent, and the litherto unknown parts of cextent a sham and a delusion, but of Australia were opened up. The the Yellow Question is a far more journey of Burke and Willia, 1860-1, realistic problem to Australia than whilst unfortunate in that the explorers died on the journey, still did pared to accept largely the general much to open out the colonies, since relief and search parties led to the delative mind.

British New Zealand .- The early history who persuaded the native chieftains of the Maoris, the natives whom the first European settlers found in possession of the islands, is enshrouded in mystery, and cannot at this late date be fathomed. If we judge the Maoris by the legends which they tell, we come to the conclusion that they are not ahoriginal, but themselves merely settlers driven from their homes southward. But the legends which account for their existence in New Zealand account also for the existencoof the native tribes in other of the neighbouring islands, and the most we can safely say is that they are kindred with the races of the Polynesian Archipelago, Their institutions, enstoms, and manners were primitive in the extreme, their religion simple, and they themselves essentially a reli-gious race. The date of the settlement of New Zealand hy Maoris has been variously given, and cannot with any amount of certainty be even approximately stated. It is safe, however, to state that the islands were visited at one time or another by the Spanish. French, and Dutch sailors of the 16th century, and at the heginning of the 17th century New Zealand is for the first time marked on a map. The first name that we can accurately connect with New Zealand is that of the famous Dutch explorer Tasman, who visited it ahout 1641. The further development of the island did not Captain Cook just after the middle of the 18th century. He hy his explorations opened np the country, made it better known to the white man, left several valuable acquisitions to the country, such as potatoes, and the pig, and also left hehind him natives more inclined to quarrel than previously. The settlement of New Zealand by the white man did not begin until the opening of the 19th century. The early days of the settlement of the white man cannot be described in colours dark enough to do them justice. The native, his passions roused by the spirits he was able to obtain, controlled only hy men to whom law meant nothing, degenerated rapidly into a hanger-on to the fringe of civilisation, and hecame rapidly worse and worse. Such a state of things could not be allowed to endure for long. With the coming of the missionaries about 1814 things hegan to change for the better. The missionaries saw and urged the need for annexation by Great Britain, hut annexation did not take place. The lawlessness of the South Island was curbed hut not checked. The French made several attempts to annex the land for themselves, their final effort British Empire League was founded heing frustrated by Captain Hobson, in 1895, primarily with the object of

to petition for annexation, a petition which was finally heard in 1840. In which was many heart in 1840. In the following year the islands were made into a separate colony, and Captain Hohson was appointed the first governor. The early days of the colony tell only a story of continual struggles over the land question. The natives refused to part with much of the land which the New Zealand Company claimed as having been purchased. The natives were willing to ahide by the decisions of the commissioner sent out hy the home government, hut the company was not: the result was the first outbreak of war hetween the Maoris and the settlers, a war which threatened the settlers with extermination but which fortunately was brought to a satisfactory termination. The Otago and Canterbury settlements brought with them many hard working settlers: the land under the adminissettlers: the land under the administration of these settlers flourished. It was found that the country was eminently suited to sheep raising, and soon wool became its greatest export. The colony was now in a flourishing condition, and in 1852 it was raised from a crown colony to a self-govern-ing one. The constitution granted hoth a system of provincial and central government. But it was some visited it ahout 1641. The further time before affairs were conducive to development of the island did not the proper working of the constitutate place until the arrival there of thon, and the departure of the governor, Sir G. Grey, marked also the heginning of trouble with the natives. Those of the natives who had still the ideals of their nation at heart were grieved by the manner in which they were treated by the settlers, and the great 'King war' hroke out, only to be settled by the bloodiest of campaigns, in which the Maoris showed very considerable courage. The native question was, however, settled, and the Maoris were given representation in the House of Representatives. With the ending of the native question the colony has progressed remarkably. It is the most British of all eolonies, enlightened in its progressiveness, and far to the fore in matters of social legislation. Its political Its political parties have the same names as the two great parties of this country, but the party names are very misleading. This country has granted the franchise to the women, has a fine old age pension system, local option and prohibition, and a system of compulsory arhitration. In all social work it is indeed well to the front. The Maoris are now contented but dwindling in numbers. The population of the country is roughly 1,000,000.

fostering trade between the British bark, resin, balsani, wax, fibre, oil, Isles, the colonies, and India. It aims at protecting the trade routes by increased co-operation of the armies guava, cherry, avogate, bread-fruit, and navies of the empire: cheapening more effectual all compand maize. Hundreds of species of dealing with patents, copyrights, legitimacy, etc.; at holding con-

calcharacteristics are almost identical. roots of mangrove trees. alluvial areas the only enitivation of soil is found. The area beyond is formed chiefly of detritus caused by the passing of the earlier int, masses. The central area is a plateau of 3000 or 3500 ft. This is covered with a dense forest containing a wealth of timber, though it has suffered little at the lumberer's hands, as few have advanced sufficiently into the country. The dist. Is well watered by streams which enter the Atlantle. The large quantities of sediment brought down to their months effectually hinder any commercial value they might America. It is bounded on the E. have, though their use in irrigation by the Bay of Honduras, in the Caribis imquestionable. Moreover they are interrupted here and there by falls and rapids. Small vessels can navigate them as far as the first rapids. The peninsula Yucatan empate them as far as the first rapids. The peninsula Yucatan empate them as far as the first rapids. The peninsula Yucatan empate them as far as the first rapids. Its area is 7562 sq. im. and its population varies in the area is 7562 sq. im. and its population varies in the area is 7562 sq. im. and its population varies in the area is 7562 sq. im. and its population varies in the area is 7562 sq. im. and its population varies in the N.W. and S. respectively are the rive. Rio Hondo and Surstoon, forming larger part of the year the heat, averages 90 in. annually. Naturally, especially along the coast, the soil is to their months effectually hinder any commercial value they might have, though their use in irrigation

are gum, position from the Spaniards, though

munication by steam, post, telegraph, ereeper are found in great plenty, cable, etc.; at establishing through- Among animal life the birds present out the empire uniformity in the laws the most striking features: vultures, engles, owls. nightjars, humning-birds, bell-birds, trogons, puff-birds, ferences from time to timo (to deal parrots. kingfishers, trumpeters, with these and cognate questions, herons, and divers are included. Not a 'so prolific as one would imagine from the wildness of the country are the animals, though specimens of jaguar, liger - cat. peccary, tapir, sloth, ı. armadillo, ant-eater, agonti, oposwhere the R. Corentyn separates sum, raccoon, porcupine, monkey, them; by Brazil on the S.; and by and manater abound. The native Venezuela on the W. The country ludians lead a natural life in the has a coast-line of 320 m., and is woods. B. G. has an area of 96,000 situated between the Orinoco and the sq. m., but definite boundaries are Amazons in S. America. Adjacent to B. G. are Venezuelan, Dutch, French, par's, the and Brazillan Guiana. In all British, N. ille the French, and Dutch Guiana the physical Age are gold burget gristless are almost identical Am Am calchuracteristics are almost identical. Any rs are On the Atlantic soil are alluvial de-Cor Esseposits generally below sea-level, and qui suffering heavy rains which convert dustry is the growing of the sugarthem into mud swamps. Sandbanks came, and wood enting and gold jut out to the ocean, of which some mining are the only other noto-are shifting, some fixed through the worthy occupations. Exports include rs are Esse-On the sugar, rum, cocon-units, timber, game, cation of and gold. The colony is divided into cyond is three provs., Berbice, Demerara, and used by Essequibo. The ports are Goorge, masses, town, the cap,, and New Amsterdam. A governor and two legislative councils control the administration of its affairs. One railway connects Georgetown with Mahajea (21 m.), and telegraphic communication is estal. Its pop. in 1911 was 296,000, which does not include natives in the less frequented parts of the country.

Brillsh Honduras, known also as Belize, a British colony in Central averages 90 in annually. Naturally, especially along the coast, the soil is the flora of the dist, is luxuriant and low and marshy. The chief exports abnormal. The vast numbers of trees are mahogany and logwood, sugar, shipbuilder coffee, cotton, sarsaparilla, bananas, ing, and plantains, and india-rubber. The correction position from the Stationary though their occupation after a defeat in members of the medical profession 1798 was tolerated more peaceahly. It was first started in 1840 as the Belize has been a British colony P since 1862, and it was governed by a w lieutenant-general who now ranks as governor. The cap. is Belize, and is a centre of the trade of Central America. Pop. 6600.

British

British India, see INDIA. British India Steam Navigation Company was started in 1556, originally under the name of the Calcutta and Burma Steam Navigation Co.. for the purpose of conducting trade along the eoast of India. During the Indian Mutiny, 1857, it did great service to the British gov. hy conveying troops from Ceylon to Calcutta, and again offered its services in 1867 during the Abyssinian campaign. Its present name was adopted in 1562. Trade with the East received a great impetus in 1869 with the opening of the Suez Canal. The s.s. India of this line was the first steamer to arrive in London from India via the Canal. The trade of this company is now very

Association. It is a contemporary and library, belonging to the Rt. Hon. trustworthy record of the procress Thomas Grenville, of 20,240 vols. that is being made in every braneh of twhich had cost about £51,090. With medical science, and issues reports of the increase of books in the library, all congresses, conferences, meetings the number of students and readers of local societies, etc., of interest to had greatly increased, and it was felt

f Dr. has since then changed its name more than once. In 1898, Mr. Ernest Hart. who had been editor since 1866, we sneceeded by Dr. Dawson Williams. It

is puh. weekly (6d.) from the As-ociation's office, 429 Strand, London, W.C. British Museum, originated with the grant of £20,000, voted by parlisment in 1753, for the purchase of Sir Hans Sloane's collection of rare books. manuscripts, curiosities, and works of art, which had cost him £50,000. Montague House was bought for £10.250 as a place for their reception. To the Sloane collection was added the Harleian and Cottonian libraries. the former having belonged to Robert Harley, Earl of Oxford, and the latter to Sir Robert Cotton, whose grand-sons bequeathed it to the nation in 1700. In 1757, George II. added to this collection the hooks collected by The trade of this company is now very this collection the hooks collected by extensive, and their vessels visit the the kings of England from the time ports of India, Burma. the Straits of Henry VII., including the libraries Settlements, the Philippines. the of Crammer and Casauhon. In 1759 Duch East Indies, Queensland, and Montague House was formally opened since 1872, the E. coast of Africa. as the B. M. The museum was rapidly. The London offices are at 9 Throg-increased by gifts, bequests, and morton Avenue, E.C. purchases. In 1772 parliament voted British Institute of Social Service, \$8400 for the purchase of Sir William organised July 1904, much on the Hamilton's collection of vases, antifines of the American Institute and quities, and drawings; in 1789 the the Paris Musée Social (1889). It Rev. Clayton Mordaunt Cracherode aims at providing a central bureau bequeathed bis illurary of books and aims at providing a central bureau bequeathed his library of books and of information on every kind or prints; George III. made a gift to the of mormation on every sind of prints; George 111, made a first to the branch of practical social service, and a nation of the Egyptian marbles taken publishes a valuable monthly Social, from Alexandria; and between 1805 Progress. President (1912) Earl of and 1818 the state hought the Town-Meath; Hon. see. A. Kenyon Mayley marbles, the Lansdowne manuard. Present office address, 4 scripts, the Phigalian marbles, the Progress London W.C. nard. Fresent office address, 4 scripts, the Phigalian marhles, the Tavistock Square, London, W.C.

British Isles, an archipelago off library. The accommodation in the W. coast of the continent of Montague House was no longer sufficurope, from which it is divided by eleint, and preparations for a new the North Sea, the Straits of Dover, hulding were placed, in 1823, in the and the English Channel. It combines of Sir Robert Smirke. This prises Great Britain, made up of new hullding, the present B. M., was England, Scotland, and Wales; Iresempleted in 1847. It faces S. on land; the Orkney and Shetland Is., to Great Russel Street, the E. and W. to the N. of Scotland; the Hebrides, wings heing joined by a most impression. land; the Orkney and Shetland Is., to Great Russel Street, the E. and W. to the N. of Scotland; the Hehrides, wings heing joined by a most impresoff the W. coast of Scotland; the Isle sive façade of columns, 370 ft. in of Man, in the Irish Sea; the Scilly Is. height, after the Ionic order. To the off the coast of Cornwall; and the E. and W. are semi-detached resisle of Wight and the Channel Is., in dences for the most important officers total number of islands is about 5000. library, presented by George IV., Area 121,390 sq. m. Pop. 45,525,000. cocupied the eastern wing in 1823. See under its various divisions.

Refitch Medical Journal is the of Printed Books, procured for the British Medical Journal is the of Printed Books, procured for the official organ of the British Medical museum the bequest of the Grenville

room was designed by Panizzi, a and the tertiary fossils collected by grant was voted for it by parliament Dr. Falconer in India. The sum of in 1854, it was carried out under the £65,000 accrued in 1879, which had direction of Sir Robert Smirke, and completed and opened in 1857. It was huilt into the interior of the quadrangle, the total cost of constructhe date of the date of the construc-tion being £150,000. It is a circular huilding, 140 ft. in diameter, the height of the dome being 106 ft. There are spacions desks to accom-modate 300 readers, which are arranged in rows converging to the eentre, where the catalogues are back of the museum was hought from shelved. The hookeases around the the Duke of Bedford. It is expected reading-room stand 8 ft. high. They that the new huildings to be erected on are made of galvanised iron, lined this site will be completed shortly. The with leather, and books are placed on both sides of the cases, separated by which have been classified as follows: about 25 m, of book-shelves, which could hold 1,000,000 vols. of cetavo and the side of the sixed ones, have heen adopted, it is estimated that the length of shelving has been increased to 46 m. There reading-room. In 1880 it was found are 20.000 vols. in the reading-room. It has the manuscript eatalogue had with leather, and books are placed on B. M. is divided into different depts., has been increased to 46 m. There reading room. In 1880 it was found are 20,000 vols. in the reading-room, that the manuscript eatalogue had to which the readers have free access, increased to an unwieldy number of The total number of vols. now in the vols., and therefore the plan was library is nearly 3,000,000. Tickets of adopted in 1881, under the superadmission to the reading-room may vision of Dr. Richard Garnet, of be obtained on application to the printing the title slips. Varlous catapria. librarian through a letter of re- logues dealing with special subjects. eommendation by a householder. The have been printed, of which the most room will be shown to any members valuable is that of old English hooks of the public if permission is asked in prior to 1641.

the Central Hall. It was soon felt (b) The manuscripts are accessible the Central Hall. It was soon felt (b) The manuscripts are accessible necessary to build a separate library to students on application. A great for the works on natural history, and number of illuminated manuscripts, in 1873 buildings were commenced in early documents of special interest, Cromwell Road, Kensington, on the and autographs of great men and site of the International Exhibition women are permanently exhibited in of 1862. The Natural History Museum show cases; special exhibitions are was completed in 1881, at a total cost also arranged at various times. This of £400,000. It is a terra-cotta buildedept. contains two original copies of ing, designed by Alfred Waterhouse, the Magna Charta, the earliest known in a nearly Representation. in an early Romanesque style. eontains books on botany, zoology, geology, and mineralogy, besides stuffed animals and an invaluable collection of unique specimens. This Natural History Dept. of the B. M. has been greatly enriched from time to time by bequests and purchases, the ebief of which may here be mentioned. The Botanical Dept. contains the herbarium of Sir Hans Sloane of \$8000 specimens bound in 262 vols. the herbarium of Sir Joseph Banks;

necessary that a new reading-room gallery on the N. side, the prin. colshould he built. The present reading-lections being those of Dr. Mantell, been bequeathed by William White (d. 1823). With this sum a new wing was ndded to the B. M. at Blooms-bury, jutting out from the S.E. angle. This wing was opened in 1882, and contained pottery, glass, prints, and drawings. The latest addition to the museum was begun during the chan-cellorship of Sir William Harcourt (1392-94), when the ground at the

It copies of the Odyssey and the Iliad, the Codex Alexandrinus (i.e. a manuscript of the Bible written in uncial Greek before the close of the 5th century), and countless other priceless manuscripts of equal interest.

(c) The prints and drawings are kept in the White wing, already mentioned. The Rev. C. M. Craeherode bequeathed his collection to the museum in 1799, and Payne Knight added his in 1824. Since then purchases have been made and further the herbarium of Sir Joseph Banks; chases have been made and further and the herbarium of British and donations given, nntil a unique colforeign mosses, collected by William Dection has been formed of drawings, Wilson. In the Zoological Dept. is etchings, and engravings, and also Gould's famons collection of humming-hirds, Wallace's collection, works of There are examples of the formed in the Eastern Archipelago, work of Raphael, Michael Angelo, and with the Eastern Archipelago, work of Raphael, Michael Angelo, and with the Eastern Archipelago, work of Raphael, Michael Angelo, and with the Eastern Archipelago and Winci, Rembrandt, and Hogarth, etc., and the English, are a litelian, German, Dutch, Flemish, and

A catalogue was issued in 1887.

(d) Among the Oriental antiquities, the most notable are the Egyptian monuments (2000 B.C.-640 A.D.), the Rosetta Stone, which affords the key to hieroglyphies, the Assyrian seulp-tures, excavated at Nimrnd from the palaee of Assur-nasir-pal (885-860

(e) In this dept. are the heautiful Elgin marbles, which originally decorated the Parthenon at Athens, the sculptures of the Mausoleum at Halicarnassus (exeavated 1857), seulptural remains from the anet. elties in Lycia (obtained by Sir C. Fellowes. 1842-6), and some of the finest pieces of statuary, representative of Gk. and Rom. art, to be found in the world. There is also a fine collection of antique vases, bronzes, geins. gold ornaments etc.

ornaments, etc.

In 1911 a new scheme was devised for interesting the public in the contents of the museum. From May till October official guides conducted parties to the various depts, at certain i During these six months fixed times. it was estimated that over 9000 persons attended these tours. experiment baving proved successful. these guides were estah, permanently in Dec. 1911. During 1911 the total number of visitors was 723,571, 280,527 of these heing for purposes of study; at the Natural History Museum the number was 435,684, of which 21,979 were students.

British New Guinea, NEW

GUINEA.

British North Borneo. see Borneo. British Science Guild, founded 1904, with the aim of convincing all men of the necessity for applying the is to further scientific education in and iron works. Pop. 6973. every possible way, and the application of scientific principles to all prov. in the N.W. of France, forming branches of life and work. Hon. sees. Sir Alexander Pedler and F. Mollwo Perkin, 1912. Office: 199 Piccadility.W. Channel, and comprising the depts.

Japanese schools are all represented. | LAND, BECHUANALAND, CAPE COLONY, NATAL, ORANGE FREE STATE, RHO-DESIA, TRANSVAAL.

DESIA,

38

British South Africa Company, The. ohtained a royal charter in 1889, through the efforts of Cecil Rhodes. It proteets Rhodesia, and is authorised to further commerce, and to develop mineral and other resources Bac.), at Khorsabad. Koyuujik, and of the dist. over an area exceeding elsewhere by Layard, Rassam, Lof-700,000 sq. m. Dr. Jameson was adtus, and Sir H. C. Rawlinson. ministrator of the company's terrical forms of the company's terrical forms and the control of the company's terrical forms. being succeeded by Earl Grey. Sir W. H. Milton is the present administra-tor, 1912. The Duke of Abercorn is president of the Board of Directors. Manager, H. Wilson Fox; see., D. E. Brodie; assistant-see. A. P. Millar, Brodie; assistant-see.. A. P. Millar, 1912. Office. 2 London Wall Build-ings, E.C. Rhodesia Emigration and Information Office, 138 Strand. W.C.

See annual reports of the company.
British Weekly, The, 'a journal of social and Christian progress,' was ornaments, etc.

(f) and (g) The coins and medals founded in 1855. It presents a weekly are representative of Gk., Rom.. Eng., record of the Free Churches, and disforeign, mediæval, and modern times the antiquities is placed. Henry Christy's valuable ethnorgraphical collection. Lequeathed in 1865, the Slade collection, and the spondence of Claudius Clear,' a 1865, the Slade collection, and the weekly causerie by the editor, Sir W. gifts of A. W. Franks. The most interesting feature in this dept. are increasing feature in this dept. are increasing feature in this dept. are independent of war and articles of mainly bterary and biographical, and domestic use belonging to the Stone and Bronze ages. nalism. The leading articles are contributed by the ed., and occasionally by other distinguished Free Churchmen, and deal principally with theological and ethical questions.

British West Africa, see Gambia, Gold Coast, Nigeria, Sierra Leone. West Indies, see British

INDIES. British Women's Temperance Association, see Temperance Societies.

Britomartis, Cretan goddess (sweet maiden); daughter of Zeus and Carme. Pursued by Minos, she flung herself into the sea, but was saved and made. a goddess by Artemis, with whom she was later identified. Goddess of hunters, said to have invented netshence called Dietynna (Gk. & error). Spenser (Faërie Queene) represents Elizaheth under this name.

Briton Ferry, a scaport in Glamormethods of seience to all hanches of canshire, Wales, at the mouth of the human endeavour.' The guild wishes R. Neath, 21 m. from the tn. of Neath, to hring before the gov.'s notice the to which it acts as port. The docks seientific aspects of all questions concerning the nation's welfare. Its aim There are also coal mines, and steel

British South Africa, see Bastro- of Finistere. Cotes-du-Nord, Ille-et-

Vilaine, Morbihan, féricure. origin, and the Armorican or Breton Briva Curretize of the Romans. tions. The country is one of the most picturesque in Europe, with its old-world tns. and anet, druidical monuments. It was conquered by Julius Casar in 57-56 B.C., and was known to the Romans as Armorica. It suffered during the 5th and 6th centuries from A.-S. invasions, when its name was changed to Britannia Minor. During the 10th century the country was closely allied with Normandy, it was

Brittle-stars is the popular name the inhabitants is that of smelting; applied to the animals of the class practically all the silver and copper Ophiuroidea among the Echino-derms. They have many points in the neighbouring the of Rattenberg, common with the Asteroidea, or star-lare smelted at Brixlegg. fishes, but they are more active and muscular, have no anus, the ambu-lacral groove on the ventral surface is derai groove on the ventual suitable over the description of the viscera. The name climates, and of which two species refers to the way in which these star grow in Britain; they are B. Minor shaped creatures can break off an and B. Major, quaking grass and refers to the way in which these star-shaped creatures can break off an arm; when this is done another quickly grows in its place. They are sometimes known also as sand-stars, from being found on the beach. Typical British species are Ophiura ciliaris, Ophiopholis aculeata, Ophio-

coma nigra, and Ophiothrix fragilis. Britton, John (1771-1857), a topographer and antiquary, born near Chippenham, Wiltshire. In 1801 he co-edited with Brayley the Beauties of Willshire, which proved very popular, and was followed up by the Beauties of England and Wales (1801-15), and the Beauties of Belfordshire.
He also pub. The Cathedral Antiquities of England (14 vols., 1814-35).
See his Autobiography (1850), and Papers (1856-7).

Britz, a vil. adjoining Rixdorf, in the prov. of Brandenburg, Prussia; pop. 8538.

Brive-la-Gaillarde, cap. of an arron.

Morbihan, and Loire-In- in the dept. of Correze, France, on the The inhab. are of Celtic R. Correze, about 18 m. S.W. of Tulle; origin, and the Armorican of Breton Briva Curretize of the Romans. The language, belonging to the Cymric church of Saint Martin dates from div. of Celtic and allied to Welsh, is the 11th century. Its chief industries spoken. The peasants are a rude, are the manuf. of tin and copper stundy race, obstinately adhering to ware, and candles; there is contheir ancient superstitions and tradi-isderable trade in wine, chestnuts, tions. The country is one of the most truffles, and pale de foie gras. It was picturesque in Europe, with its old-the bp. of Cardinal Dubois. Pop. world the said and devilled from 120 Med. 20.006.

Brixen, a tn. in Tyrol, Austria, in the Puster valley, 57 m. S.E. of Munich, on the Brenner Railway. It has a eathedral, an old episcopal palace, and sev. monasteries, and a theological seminary. From 1179 to 1803 the bishop was a prince, the

Brixton, a div. in the parish and bor of Lambeth, Surrey. Pop. 75, 366. Briza is the name of a genus of

maiden's-hair, common in meadows. They are very slight, shaking with the least breath of air, and as pasture

they yield little nutriment.

Brizio (or Brizzi), Francesco (1574-1622), an Italian painter, born at Bologna. He studied under Lodovico Carracci, and was perhaps his best executing some admirable pupil, B. was also an engraver of work.

some note.

Broach, Baroach, or Bharuch, a tn. of Gujerat, Bombay Presidency, India. It is situated on the N. bank of the Nerbudda, 228 m. by rail N. of Bombay. It was formerly one of the most important ports of Western India, and was famous for its handwoven fabries. Dutch and English factories were founded in the 17th century; it was captured by the British forces in 1772, yielded to Sindhia in 1783, and recaptured in 1803. for sick animals. hospital 42,300. The dist. of B. is a fertile 1901. plain of 1453 sq. m. Pop. c. 290,000. Bro 42,300.

is guilty of felony, and any one un-lawfully in possession of goods thus lawfully in possession of goods thus Broads, The, a level dist., chiefly in stamped can be fined \$200 and costs. Norfolk, but also in Suffolk. The

Broadbent, Sir William Henry (1835-1907).

ing at Ower continued his

1858 to 1896 he was on the active staff at St. Mary's Hospital, London. . At the medical school he was lecturer on physiology, zoology, and comparative anatomy, and proved an excellent elinical teacher. From 1860 to on the Duke of Clarence at his death, Broads, 1887; Emerson, On English 1892, and Queen Victoria, Edward Lagoons, 1893; and Dutt, The VII., and George V. were at different Norfolk Broads, 1903.

Broadside, the simultaneous distribution of Broadside, the simultaneous distribution of Broadside, the simultaneous distribution of Broadside. paralysis, in the form of hemiplegia, was also president of the British off the rounded turiets and that the Medical Benevolent Fund, 1900, and weight of guns and armour is more proved himself an able lecturer.

Broad-bottom Administration was the name satireally given to Henry
Pelham's ministry, which lasted from E. coast of the Isle of Thanet. Kent,
1744 to 1754, the year of Pelbam's England, 2 m. by rail N.E. of Ramsdeath. It was so called because it gate. There is an orphanage, founded death. It was so called because it gate. There is an orphanage, to admitted every man of parliamentary by the wife of Archishop Tait, talent or influence, irrespective of Dickens was a frequent visitor, and party. Pelham stooped to the most corrupt practices, such as would have here. Pop. (1901) 6466. party. Pelham stooped to the most corrupt practices, such as would have disgusted even his predecessor, Walpole, and was prepared to support any one powerful enough to be danger-The nation, inured to vicious governments, believed it could prosper without any at all, but learnt its mistake when the Young Pretender won his crushing victory at Preston-pans (1745), and when it was involved in a useless war with France (1743-48).

Broadhurst, Henry (1840 - 1911), politician, worked in a blacksmith's shop, and was later a stonemason, until, in 1875, he accepted the secretaryship of the Labour Representa-tive League. From 1880 to 1892 he sat in parliament, representing in turn Stoke-on-Trent till 1885; Borde-ley till 1886; and Nottingham. For six months, 1886, he was Under-Secretary of State for the Home Dept. He did good service on many royal com-missions: reformatory and industrial schools, housing of the working classes, condition of aged poor, etc. In 1885 he collaborated with Sir R. Reid in writing a book on leasehold enfranchisement, having worked hard

There is a Mohammedan for the Leasehold Enfranchisement Pop. Bill. His autohiography was pub. in

plain of 1453 sq. m. Pop. c. 290,000. Broadmoor, in Sandhurst parish, Broad Arrow, the mark of the S.E. Berkslire, England, a state British gov. stamped on all gov. asylum for criminal lunatics. It was tores. Any one defacing this mark built in 1863, and will accommodate

700 persons.

B. are shallow lakes, connected hy 'dykes' to the rivs. which intersect · the country, viz. the rivs. Yare, Bure, with its tributaries the Ant and the Thurne, and Waveney. There is Thurne, and Waveney. There is execulent yaehting on the shallow broads, and the fish and wild-fowl, too, attract many holiday-makers. There is a profusion of vegetation pcculiar to marshy dists, and of great

ship-of-war. This method was disis still unrefuted, whilst he first sug- carded on the introduction of irongested with authority a separate clud turret-ships in which the great centre for conception of ideation. He advantages are that projectiles glance

evenly distributed.

Broadsides, see CHAPBOOKS.

There is an orphanage, founded

Broadsword, a sword with a broad, flat blade, which is generally used for cutting, but not stabbing. It was formerly a weapon of the Highlanders.

Broadwater, a vil. and par. in Sussex, England, with an acreage of 2735. It is about 12 m. to the W. of Brighton. It is noted for its extensive market gardens, much of its produce being cuitivated under glass. In the neighbourhood is an old Rom, camp in a state of good prescryation. Broadwood, John (1732-1812), born

iu Berwiekslure, and walked to London to become a eabinct-maker there. With the Swiss, Burkhard Tschudi (whose daughter he married), he founded the great London pianoforte house (entering into partnership with Tschudi 1769, becoming sole proprietor 1783). Sev. generations of Bs. have carried on the business, which still prospers at the present time.

Broadwood, Rotert George (b. 1862) British soldier: entered army (12th Lancers), 1881; served Dongola expeditionary force, 1896; and

commander of 2nd Cavalry Brigade. A mounted force under him was ambushed by De Wet at Sanna's Post, a number of men and guns being captured. In 1901 B. captured General A. Cronje, General Wessels, and other prisoners, during operations in the Free State; 1903-4 commanded troops in Natal as colonel; 1904-6 brigadiergeneral, commanding Orange Colony dist.; 1996 commanded the troops in S. Clina; C.B. 1990; major-general, and A.D.C. to the king. B. has won the highest distinctions during the colonial coloni ing his military career. He was frequently mentioned in despatches in the Egyptian and S. African wars, and liolds, among other medals, Khediyo's medal, three clasps; Queen's medal and six clasps; and King's medal and two clasps,

Broca, Pierre Paul (1824-80), a Fr. anthropologist, born at Sainte-Foy-lathe Ecole Polytechnique and F de Médicine of Paris. In 1846 came assistant in anatomy

various times he acted as surgeon to the im~~ aris: founded ciety of Pari. ?evuc the Ecole d nber of the I То

him medical science owes the dis-covery of the seat of speech in what is commonly known as the 'convolu-He was a director of tion of B. public assistance during the Franco-Prussian War. There is a statue of Prussian War. There is a statue of Scotland, the best known and Clekemin in Shet-lim, executed by Choppin, in the being Mousa and Clekemin in Shet-Ecole de Médicine. His most implied the Carlon in Lewis, and utherland. The portant publications are: Des An. resser de leur Traitement, 1851 L'Ethnologie de la France, 1855 L'Ethnologie de la France, 1850 Instructions Générales pour les Recherches cherches struction: mic métriques

thropologic, 4 vois. 1511-55. deconated fabric, with a slightly raised pattern, often woven with gold, silver, or gilt-silver threads. Oriental tissues, made in Persia and Asia Minor, especially from the 14th to 17th century, are also called Bs. B. was made as early as the 13th century in Italy and Spain. The

Egyptian War, 1898, being present at very popular. Now the word B. 15 battles of Atbara and Khartoum. B. applied to any rich material on which served in S. Africa, 1889-1902, as a raised pattern has been wrought. At the South Kensington Museum there is a fine collection of old and modern Bs., which is of great interest to the decorative textile artist. Fine specimens may also be seen at various contine--and at

Brocc..., Livanin Banisia (1772-1826), It. naturalist, born at Bassano. After holding the office of professor of botany at Bresela he became in 1809 inspector of mines at Milan. He after-wards left Italy and went to Egypt where he held a commission as engineer, and died at Khartoum. He has written several important books. among them being: Conchylologia fossile subapennina, 1814; Dello Stato Fisico del Suolo di Roma, 1820.

Botryplant

cabbage. It produces its young Grande, Gironde. He studied at the flowers in compact heads, which are communal College of Sainte-Fer and control ives, and coner blanched in this plant are

allied species. Faculté, and in 1853 was appointed The peduneles are fleshy, and the professor of surgical pathology. At flowers abortive; the inflorescence is used as a table vegetable, and comes into season in the autumn.

Broch (A.S. burh, burg; Scot. brough, a fortified enclosure) a name applied locally to the ancient round towers or strongholds existing in the N. of Scotland. In Gaclie-speaking districts they are called 'duns' and 'calscals' (castles), and to antiquarions they are known as 'Pietish towers,' There are 3-400 Bs., most in absolute rulns, in different parts of Scotland, the best known examples

> construction are hough there is The exterior varies between ter wall there is loorway, about in. wide. This

Brocade, the name given to a richly ls the only opening whatever in the conated fabric, with a slightly outer wall, and is defended by a ised pattern, often woven with small chamber within the wall on one or both sides of the entrance. are, further, some distance within tho opening, holes for a sliding bar to guard the entrance. The wall is about 15 ft. thick, enclosing a circular courtcentury in Italy and Spain. The yard, open to the sky, in which a background was of heavy silk, or of well is frequently found. Narrow, some strong material with a soft silk cace, on to which a flowered pattern of many colours was woven. At a later date, about the 16th century, metallic and oriental fabrics became the summit. These galleries and the number of galleries built into the inner wall. Mousa has a height of 40 ft. with six galleries, and Dun Carloway, 34 ft., with five galleries. Small, beehive-shaped chambers are built round the inside of the court on the ground floor, but in some eases the wall at the base is solid, with only one aperture through which the staircase chambers have for their roof the floor of the chambers above. Extensive excavations have been undertaken the instance of the Society of Antiquaries of Seotland, and many relies of the former inhabs, have been discovered. From the tools and implements found it is thought that the B. dwellers were agriculturalists and that the Bs. were used as a refuge for themselves and their eattle from plundering bands. Most authorities date the huilding of the Bs. to a post-Rom. period, i.e. not earlier than the 5th century. Harold, Earl of Orkney. besieged Mousa about A.D. 1155, but failed to eapture it. The Bs. probably suffered at the hands of the Northmen from the 9th to the 12th century. For further information consult the Transactions of the Society of Antiquaries of Seotland: Archwologia Scotica (vol. 5, 1890); and also Gordon's Itinerarium Septentrionale, 1720; Poeoeke's Tours in Scotland (puh. by the Scottish History Society. Edinburgh, 1887), and Dr. Joseph Anderson's Scotland in Pagan Times. 1883.

Bröchner, Hans (1820-75), a Dan. philosopher. He studied theology and philosophy, and worked for some years at the Copenhagen University,

death B. completed many of his works, amongst them the O'Connell monument for Dublin and the statue of for Klopstock. Lappenberg pub. B.'s Lord Canning for Calcutta, c. 1874. autobiography, 1847. See also Brandl's Some of his earliest works are 'Her-Life, and Strauss's Brockes und group—subject taken from Kingsley's Brockhaus, Friedrich Arnold (1772-Hercward), and marble statues of 1823), the founder of the well-known

are lighted and ventilated from the 'Paris,' and 'Euone.' B. executed inner area, or courty ard, sometimes a bronze bust of Lord Leighton, 1873, called the 'well,' by means of windows and a marble one of Queen Victoria, placed in perpendicular rows, and 1901. Among his equestrian statues separated from each other by single may be mentioued that of 'The Black slabs of stone. No B. is complete in its upper parts, so that it is impossible to tell the original height Bahadur and Runoodeup Singh 'for Bahadur and Runoodeup Singh for the cap, of Nepal. He designed the statues of Richard Baxter, Rowland Hill, Sir Richard Temple (for Bonbay). Sir Richard Oweu, and Dr. Philpott. The monument to Lord Leighton in St. Paul's, and Long-fellow's bust in Westminster Abbey are further specimens of B.'s work. He designed and executed the Imleads to the first gallery. The other perial memorial to Queen Victoria in the Mall. Among his ideal works are 'The Moment of Peril,' purchased under the Chantrey bequest for the nation; The Genius of Poetry; 'Song,' 1891; Eve' (Tate Gallery). B. shows great power as a portraitist, there is dignity, restraiut, sympathy, and re-finement in all his work. R.A., 1891; K.C.B., 1911; membre d'honneur de la Société des Artistes Français.

Brocken, or Blocksberg, the highest summit of the Harz Mts., in Prussian Saxony. 20 m. W.S.W. of Halber-stadt. It is the Mons Bructerus of the Romans: has an elevation of 3745 ft. above the level of the sea. It is interesting for the optical phenomenon known as 'Spectre of the Brocken.' On its summit, according to accient superstition, the witches met and held their revels on St. Walpurgis' A railroad up this mt. was Night. eonstructed in 1898, and an observatory in 1895. The summit is covered with snow from Nov. to June, where there is singularly little

vegetation. Brockes, Barthold Heinrich (1680-1747), Ger. poet, born at Hamburg. Studied at universities of Halle and Levden, and after travelling widely on the Continent settled in Hamburg, 1704. Part-founder of the Patriotic Society, 1716; later pub. Der Patriot. becoming professor there, 1870. B. Society, 1716; later pub. Der Patriot. wrote a treatise on Spinoza, 1857. His After 1720 B. held various high offices chief work is Bidrag til Filosofiens in the state's service; 1735-41 was Historiske Udvikling, 1869. He also amtmann at Ritzebüttel. His chief Geschichte der poetical works were pub. in nine vols. strained der poetical works were pub. in fine vols. as Irdisches Vergnugen in Golt, 1721
847), an Eng. 148. He trans. Marini's La Strage Chief pupil degli Innocenti, Pope's Essay on Man, of Foley (opponent of formalism in and Thomson's Seasons. His poetry sculpture), afterwards his assistant, marks the changes affecting Ger. Later he was influenced by the new literature in the season of the changes affecting. Later he was influenced by the new literature in the early 18th century, romantic movement. On Foley's

eules Strangling Antæus' (marble Reimarus (Gesammelte Schriften, ii.).

publishing firm of B. in Leipzig, and the publisher of the Conversations-Lexikon. He was born at Dortmund. in Westphalia; in 1811 he started business in Altenburg, and was so successful that in 1817 he removed to Leipzig where he combined the trade of book. printing with that of publishing. B. bought the copyright of Conversations. Lexikon, which had been begun by Löbel in 1796, and in 1812 pub. a new and improved edition, which he himself ed. It was, from the first, a great success, and has been revised and kept up to date by new editions from time to time: the latest edition was begun in 1902. Consult The Life and

Letters of Brockhaus (3 vols., 1872-81). Brocklesby, Richard (1722-97), physician, graduated at Leyden in 1745. As physician to the army be worked in Germany during the Seven Years' War, 1756-63, and in 1764 pub. a book, suggesting what he knew from experience were necessary improvements in hospitals. After heing physician-

Brockmann, Johann Franz Hieronymus (1745-1812), Austro-Ger. actor, born at Graz. In 1762 he went through Hungary with a theatrical company, obtaining a good appointment 1766; 1768 B. gave performances in many different tns.; 1771 went to Hamhurg. Under Schröder's management he became the finest actor of his time, being drama. He ...
in Berlin, 1777. Other ...
Beaumarchais,
Beaumarchais, Other rôles were and 'Odoardo Galotti' in Ifiland's Jägern.

Brockram ('broken rock'), the local name applied to certain breceias

matrix.

water, in the co. of Plymouth, Massa-reputation among his fellow-citizens, chusetts, on the New York, New Haven, and Hartford Railroad, 20 m. sculptor, born at Banfi, but spent water, in the co. of Plymouth. Massa-chusetts, on the New York, New Haven, and Hartford Railroad, 20 m. S. of Boston. Its most important, industry is the manuf. of boots and shoes, but it has also manufs. of scottish Academy. He specialised in rubber goods, sewing machines, and portrait busts, and numbered among pianos. Pop. (1905) 47,794.

situated on the Grand Trunk, the Canadian Pacific, and the B. West-port, and Sault Ste. Marie Railroads. Îts manufs are steam-engine, machinery, carriages, gloves, etc. Pop. (1901) 5940.

Brod is a tn. of Hungary, in the prov. of Slavonia, situated on the R. Save, almost opposite the town of the same name in Bosnia. The town. which is fortified, has a pop. of 8000.

Brodick, a small vil. situated in the Isle of Arran, Buteshire, Scotland. It is a well-known scaside resort, and about 14 m. s.W. by W. from

Ardrossan.

Brodie, Sir Benjamin Collins (1783-1862), an Eng. surgeon, was born at Winterslow Rectory, Wiltshire. He studied at St. George's Hospital, to which be afterwards became surgeon. He was elected fellow of the Royal Society in 1810, which awarded him the Copley medal in the following nospitals. After heing physician society in 1858. B. was attendant reneral to the royal regiment of physician to George IV., and sergeant artillery at Woolwich, he retired into private life, and proved himself a Victoria. B. wrote an Autobiography, staunch friend and henefactor to which, together with his numerous Burke and Dr. Johnson, whom he attended at death.

Brockmann Lebent III. year; he was elected president of the in a complete ed. in 1865. His son, Sir Benjamin Collins B. (1817-80), was a distinguished chemist, noted for his discovery of graphite acid. He hecame Professor of Chemistry at the University of Oxford (1855), and president of the Chemical Society (1859).

Brodie, William (d. 1788), a famous Scottish burglar, horn in Edinburgh. the son of a cabinet-maker, who was ranked with Garrick and Lekain; a member of the town council; he 1789-91 director of court theatre in succeeded to his father's business, was Vienna. B. was at his hest in domestic; a deacon of the Incorporation of the drama. He won fame as 'Hamlet' Edinburgh Wrights and Masons, and a city councillor. He early acquired a taste for gambling, and frequented a low gaming-hou-c. In 1736 he be-came leader of a gang, the other members of whom were George belonging to the Lower Permian age, Sinith, Andrew Ainslie, and John which are found near Appleby, Pen-Brown, which committed a number rith, Kirkby-Stephen, and in other of burglaries in 1787. In 1788 tbey parts of the N. of England. These broke into the Excise Office, and breecias consist of broken pieces of limestone embedded in a red sandy Brown turned king's evidence, and B B. was finally arrested in Amsterdam Brockton, formerly N. Bridge- and hung. To the end he kept a good

Brockville, a port and cap, of Leeds; exeented by him is in Windsor Castle, co. Ontario, Canada, on the I. b. of the St. Lawrence. It takes its name Sir James Simpson, of whom he exertom General Sir Isaac Brock. It is lented the statue in Princes Street an important railway junction, being Gardens, Edinburgh.

Brodz, a frontier tn. in Austria-Iman of caution and seldom attempted Hungary, in Galicia, about 56 m. E.N.E. of Lemberg. It is an imbetween Austriamart. Hungary and Russia, the trade being chiefly in furs, cattle, and agric. implements. Pop. (1900) 17,360, of which two-thirds are Jews.

Brodzinski, Kazimierz (1791-1835), Polish poet, Joined the Fr. army, taking part in the Russian campaign, 1812-18; 1826 professor of Polish liter-ture at Warsaw University till it was closed, 1831. The idyllie poem Wies-law, 1820, is B.'s chief work. He translated the Book of Job and Schiller's dramas. See Kraszewski's edition of his works, 1872-4.

Brock, a vil., famous for its cleanliness, about 6 m. N.E. of Amsterdam, N. Holland. It has a great dairy

farm. Pop. 1553.

The founder of the Fr. line of the family, François Marie, distinguished himself as a soldier both previous to and after his entrance into the Fr. service, and died a general in the service of France. His son also fought in many engagements under the flag of France, serving at one time or another with all the great French commanders of the 17th century. This son, however, became even a more important factor in the history of France than either his father or grandfather had been, and he it was who founded the ducal family, becoming both a duko and a marshal of the kingdom of France. He was born in the year 1671 and joined the Fr.

any dashing or brilliant movements. He afterwards became governor of Alsace, and took part in the early stages of the war of the Austrian Succession (1740-48). In 1743 he retired, having, in the previous year, been made a duke. He died in 1745. Hisson, Victor François (b. 1718), was by the time of his father's death recognised as one of the coming Fr. generals. He served with distinction through the war of the Austrian Succession, but he estab his great name as a soldier during the Seven Years' War (1756-63). He took part in the whole of this campaign, and was made a marshal of France and a prince of the empire for his great victory at Bergen in 1759. After the war he did not take any active part in the military life of France, being in disgrace at the Fr. court, but in 1778 he was partially restored to favour and given command of the troops who were to operate against On the outbreak of the England. Revolution he opposed that movement as much as he could, but ultimately became an émigré and fought against the Revolutionaries. He died in 1804. His son, Victor Claude. Prince Fr. sole

of the fought in America with Lafayette. After ···· mary army · been a mei of the Constituent Assembly, he fell a victim to the 'Terror' in 1794. He remained firm to his Revolutionary principles

to the end. Achille Charles Leonce Fictor, Duc army at an early age, taking part in de Broglie, distinguished as a Liberal

iatist, was born some time after in Switzerland.

tinued his long service with the Fr. whither his mother had field. He rearms, taking part in the war of the innined here until the death of Robeurned to married

hands of tion. He work of

sorvices he was promoted to the rank | the Napoleonie empire, and was a of lieutenant-general. During the peace which ensued between the peaco which ensued Treaty of Utrecht and the outbreak of the war of the Polish Succession he was employed variously in the reorganisation and general supervision of the Fr. cavalry and also on sev. only member of his House who voted diplomatic missions. On the outbreak of war in 1733 he took part in the campaigns in Italy and was in the following year made a marshal of France. He was one of the chief commanders of the Fr., but in 1735 Philippe he was Foreign Secretary, lie was superseded, since, though his tactics were always safe, he was a organisation and general supervision

member of the council of state. In 1814 he was invited to become a member of the Chamber of Peers by Louis XVIII. He had already had his peerage restored to him, and in 1815 he defended Marshal Ney and was the

position and practically from politics. He was for a time umhas, in London, and sat in the Republican National Assembly after 1845. He was a victim of the coup d'étal, after which he retired entirely from politics and de-voted himself to literary work. His literary work, while of not great outstanding merit, won for him a place in the Fr. Academy. He died in 1870.

some active part missions, serving both in Madrid and later was created K.C.B.; promoted Romc. The Revolution of 1848, to the rank of rear-admiral in 1830, however, drove him from political See his Life by Dr. Brighton (1866), circles, and he devoted his time to literature, heing in 1862 elected a cowinna co., New South Wales, member of the Fr. Academy. In 1871 | Australia, about 16 m. E. of silverton, he again entered active politics and 11 is the rienest silver mining centre was for a short time Fr. ambas, in of the continent. The Proprietary' London. Hostile criticism led him to mine employs over 3000 lands. The London. Hostile criticism led him to; mine employs over 3000 hands. The resign that post, and he re-entered chief exports are silver, lead, and tin. the Chamber of Deputies. In 1873 he Pop. (1903) 27,160. became president of the conneil and minister for foreign affairs, and later minister of the interior. In 1877 he again became premier, but was almost

of coarse hide or half-tanned leather, formerly worn by the native Irish as healing goes, the action of the and the Scottish Highlanders. The animal is likely to be impaired. word is also applied to the pronnecial Broker, an agent employed to tion of Eng. peculiar to the natives negotiate bargains and contracts, word is also applied to the pronuncia Broker, tion of Eng. peculiar to the natives negotiate

of Ireland.

Broich, a vil. of Rhenish Prassia on the Ruhr opposite Mülheim. Has railfamous castle near. Pop. (1900) 7000. Also vil. of Rhenish Prussia, 6 m. from Aix-la-Chapelle. Pop. (1900) 3000.

Broiling is the best means of cooking small pieces of meat quickly and well, and is particularly suited to invalids. It is done on a clean griding valids. It is done on a clean gridiron, previously warmed and greased, over a clear charcoal fire, which should extend two inches beyond the edges of the gridiron. It is not easy by this means to preserve the odour and fat, but the meat is very untritions, as it is cooked in its own juices, the im-mediate effect of B. being to coagutongs, and a fork should on no account be used. It is useless to attempt B. before an open fire, as the meat is then exposed to cold air on one side.

Broke, Sir Philip Bowes Vere (1776-1911), a British rear-admiral, was born at Broke Hall, near Ipswich. He entered the navy in 1792, and was made captain of the frigate Shannon in 1806. On June 1, 1813, he fought Among his works may be mentioned, his famous duel with the American Eerils et Discours, 1863; Vues sur la frigate, Chesapeake, and succeeded and Mémoires, 1867.

Jacques Victor Albert, Duc de ficree struggle, B., however, received Broglie, a distinguished writer and a wound which permanently disabled politician, eldest son of the above, him, and was obliged to retire from was born in 1821. Up to 1818 he took, active service. He received a some active part in diplomatic baroncter in 1813, and two years missions, serving both in Madrid and later was created K.C.B.; promoted

what joint.

however, corresponds to the wrist in immediately forced to resign. After man, and is composed of a number of 1877 he devoted himself to literature delicately jointed bones. If the forced wrote a number of historical less of a horse give way, it is apt to studies. He died in Jan. 1901. Among fail upon this joint, causing more or his most important works are: less severe injury. If only an abrasion less severe injury. his most important works are: less severe injury. If only an abrasion Fréderic II. and Louis XV., 1885; of the skin occurs, the wound will L'Eglise et l'Empire Romain en IV. cause little trouble, but if the sheath siede, 1856-66; La paix d'Air-la of the tendon is injured. The Chapelle, 1892; Vollaire avant et bones of the joint are fractured, heal-Pendant la Guerre de Sept Ans. 1808: ing is a slow process, and is likely to Brozue (Gaelic brog) a shoe made be accompanied by fever. Even if the injury is successfully treated as far

sales and purchases of goods, for remuncration, commonly called a brokerage. A B. does not act in his road shops and various manufa; own name, nor does he have the custody of the goods about which he negotiates: he cannot sell the goods publicly, but is a middle-man, negotiating privately on behalf of his prin. No personal liability attaches to him for the goods in which he deals. A B. usually specialises in one market, thus acquiring a particular know-ledge which gives him an advantage over the general merchant or private buyer or seller. As well as ordinary commercial Bs., there are stockbrokers (see STOCK EXCHANGE); insurance-brokers, who in general affect late the outer albumen. The meat or brokers, who bny and sell bills of fish must be turned rapidly with B. exchange and promissory notes.

ness is of a different nature. Consult grass. Brodhurst, Law and Practice of the Stock Exchange (1897).

Brokerage, the fee or commission given by a 'principal' to a broker or

Bromal (CBr₅COH), a yellow only liquid formed by the action of dry bromine on alcohol. It holls at 172°. and unites with water to form a solid livdrate, melting at 43°. It is decomposed by alkalies into formic acid and gastrie disturbances. In larger doses stamens, and three united carpels it has a dangerous poisonous action with numerous ovules. upon the heart.

Bromberg, the cap. of the administrative dist. of the same name, in the frov. of Posen, Prussla, on the Brahe, 69 m. N.E. of Posen. The B. Canal, which connects the Vistula with the Oder and the Elbe, hy joining the rivs. Netze and Brahe, has opened up the trade very considerably. The chief manufs, are vehicles, furniture, paper, machinery, and snuff. There are also distilleries, breweries, tanneries, and dycing establishments.

Brome, Alexander (1620-66), poet, was an attorney by profession. Besides publishing a vol. of Songs and other Poems, in which he freely satir-

Brome, Richard (d. 1652), an Eng. amatist. Little is known of his dramatist. Little is known of his early life. It is certain, however, that Lane. His plays include The Northern as a restrainer. Lane. His plays include The Normern as a restraint.

Lassic (1632): Fire New Playes (c. Bromine (symbol Br, atomic weight

1652)—these included 'The Madd: 79°96), an element, was discovered by
Couple well Matcht.' Novella.' Court Balard of Montpellier in 1826 in the

Begger,' City Witt.' and 'The mother liquor obtained after the

The motivales' His particular success crystallisation of salt from concen-Damoiselle.' was achieved in comedy.

the genus *Bromus*, occurring in in most temperate climates. Sev. species are springs.

making a profit on the difference common annuals in Britain, but they making a profit on the difference common annuals in Britain, but they between the discount at which they are of no value to the farmer. B. have bought or sold the note and the interest at which they have borrowed for the effect of the sale; in hedgerows. Some species of and pawn-brokers (q.v.), whose husi-brokers (q.v.), whose husi-brokers of different nature. Consult practice of the different nature.

Bromeliaceæ is a monocotyledonous order of tropical plants, containing about 400 species which are of little mercantile agent as payment for a bowever, he made in the case of the bargain concluded by him. The leaves of these pine-apple. herbaceous plants are usually borne as a fleshy rosette which fit in together to form a funnel shaped receptacle. The brightlyinflorescence has coloured bracts, and the fruit is either bromoform. The hydrate is used in a berry or a capsule. The flowers are medicinc as a hypnotic, i.e. to produce usually hemaphrodite and regular, sleep, in doses up to five grains, but with a perianth in two whorls of its use is usually accompanied by three, sepaloid and petaloid, six

> Bromic Acid (HBrO2), a monohasic acid formed by passing chlorine into bromine-water; or by the action of dilute sulphuric acid in barium bromate; or by adding bromine to a strong solution of silver bromate. The acid is only known in its aqueous solution, forms salts called bromates, and decomposes at 100° C. into water,

oxygen, and bromine.

Bromide of Potassium (KBr), colourless or white erystalline solid prepared by the action of bromine on potassium hydrate. It is much used in medicine for nervous diseases such as epilepsy, delirium tremens, hysteria. sleeplessness, as well as other conditions where it is desirable to ised the Rump Parliament, he tried depress the nervous system, as in his hand, as was the fashion, at diseases of the skin, throat, and clegies, epigrams, translations, etc. larynx, fibroid tumours, etc. Its exas a wit he had a fair reputation. bromism, or brominism, characterised hy skin cruptions, growing muscular dramatist. Little is known of his and sexual weakness, mental dulness lic acted as a scrvant to Ben Jonson, and feebleness, leading to extremo from whom be acquired much of that depression and melancholia. The writer's style and ability. The relations of master and servant seem to individual who has recourse to KBr have changed to the warmer fies of to allay nervous excitability. Though friendship, for Jonson himself referred undoubtedly of great value as a to him in his lines 'To my faithful unedicine, its indiscriminate use has servant and most loving friend.' B. led to an unlealthy state of mind in wrote for the Globe and Blackfurs some sections of seciety. In photo. wrote for the Globe and Blackfriars some sections of society. In photo-theatres, and for the Cockpit in Drury graphy bromide of potassium is used

His particular success crystallisation of salt from concenas achieved in comedy.

Brome-Grass is the name of various found to exist in all sea-water to the species of true grasses belonging to extent of one grain to the gallon, and the genus Bromus, occurring in in most minural waters and salt It derives its name from

allusion to its unpleasant smeil. is at ordinary temperature a volatile. heavy, mobile liquid of a reddishbrown colour, giving off reddishbrown vapour and boiling at 59° C. The vapour when inhaled dilute resembles chlorine in smell and in attacking the throat and nose, but in addition it has a very harmful effect on the eyes. The liquid is very poisonous and produces burns on the kin. It is soluble in water, the solu-tion being known as 'bromine water.' for exidation purposes. The presence of B. can be detected by passing chlorine through the solution, when district near Bow, E. London, B. L. liberated, and can be dissolved Bromley, William (1769-1842), line out by ether. It turns starch yellow, engraver, became, in 1819, associate B. is one of the family of elements engraver of the Royal Academy. Be-'halogens' (sea-salt called their sodium salts to sodium chloride. The members are fluorine (F 19), after G. Corbould's drawings. Some chlorine (Cl 35'45), B. (Br 79'96), of his better known works are 'Death and iodine (I 126'85). They are of Nelson, after A. Davis', Duban very similar in 1850. They are and lognic (1 120 50). They are very similar in properties, and show a gradation of properties corro-sponding to the gradation of atomic weights. They are monovalent, and everally displace one another thus: B. displaces iodine, chlorine displaces B., and fluorine displaces chlorine. The properties of B. are intermediate between those of chlorine. and lodine. Thus at ordinary tear was discovered by Dumas. It is properatures chlorine is a gas, B. a duced by adding bromine to alcohol iguid, and iodine a solid. Chlorine or to an nicoholic solution of caustic and hydrogen unite slowly in day potash. It is decomposed on boiling light but received the caustic potash, and produces light but violently in direct sunlight. hydrogen and B. need to be heated to unite, while hydrogen and iodine formate. require still stronger heating. The chloroform, and by reason of its chief source of B. is the crude carnal-weight it is used in separating prochief source of B. Is the crude carnallite in the saline deposits of Stassfurt in Prussian Saxony and of the United States. combined with magnesium, the mag- borough of Kensington. Here are the of the magnesium chloride in the Church, and a consumption and crude deposit. The B. Is liberated cancer hospital. from the bromido by chlorine, which is separately generated. The hot S. of Kal mother liquor flows down a tower Brömse. filled with carthenware balls, and meets an up-current of chlorine. В. h liberated, and the vapour passes up out of the top of the tower into a worm, where it is condensed. The condensed vapour as it leaves the worm is collected in a bottle, while any nacondensed vapour passes into a tube of moist Iron filings, where it forms fron compounds and none is wasted. Electrolytle methods are now becoming common for B. production, as It is found that on the electrolysis of the mother liquor all B. comes off before any of the chlorine.

Greek bromos, signifying stench, in By passing hydrogen and B. through B. a hot platinum tube hydrobronuc acid (IIBr) is produced, also by the action of B. on slightly moistened red phosphorus. It is a colourless, pungent smelling gas which, when dissolved in water, forms a liquid strongly resembling aqueous hydrochloric acid. It reacts with metallic oxides, hydroxides, and carbonates to form bromides, saits which are widely used in photography, especially the bromide of silver.

Bromley: 1. A tn. ln Kent, England, which has a slight bleaching action, on the Ravensbourne. There is a fine and is used in analytical chemistry. Gothic church, containing the monufor oxidation purposes. The presence ments of several of the bishops of Rochester. Pop. (1901) 27,358,

> of Nelson,' after A. Davis; 'Duke of Wellington,' after Sir Thomas Law-rence; and 'Woman taken in rence;

> rence; and Adultery' (Rubens).
>
> Adultery' (Rubens).
>
> Tribromomethane Bromoform, or Tribromomethane (CHBr.), the bromine analogue is a clear heavy liquid (sp. gr. 277.), turning red on standing, owing to formation of bromine. It was discovered by the standard of the standard by Löwig in 1832, but its true nature with caustic potash, and produces potassium bramide and potassium formate. It smells and tastes like eesses in mineralogy.

an Saxony and of the United Brompton, a western dist. of Lon-This substance contains B. don, England. It is in the S.E. of the

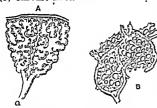
Brömsebro, a vil. in Sweden, 29 m. s. of Kalmar, near the month of the Brömse. It is celebrated for the treaties signed here between Denmark and Sweden in 1541 and 1645. Bromsgrove, a market town Worcestershire, 12 m. N.N.E. Worcester, and 13 m. S.W. വി of

of Birmingham, with a station on the Birmingham and Gloucester line of the Midland Railway. The tn., which is situated in a pleasant, well-wooded country, has an Edward VI, grammar school, and a fine church in the Decorated Eng. style. Wrought nailmaking and other minor industries are carried on. Pop. 8416.

Bromus, see BROME-GRASS.

WICH. The Bronchi and Bronchitis. trachea or windpipe divides into two main branches, which are ringed with gristle in the same manner as the trachca itself. These main branches lead to the lungs, but are themselves split up into a large number of smaller branches which at the surface of the lung have only capillary dimensions. The two main tubes are called the 'bronchi,' but this name is often applied to all the tubes of the system, which are also called 'bronchial tubes.' The right bronchus lies in a more horizontal position than the left, and since the right lung is larger than the left there is a corresponding difference in the calibre of the respective tubes. The bronchi are lined with mucous membrane, which is a

the bronchial tubes is known as ' bronchitis,' and increases in seriousness as it passes from the wider tubes to the narrower ones. There are three types of bronehitis which may be treated separately, viz. (1) Acute Bronchitis, (2) Capillary Bronchitis, (3) Chronic Bronchitis.



A, a bronchial tube, (a) opening into two collections of air-sacs; B, the arrangement of the blood-vessels which lie underneath the epithelial lining (not shown) of two air-sacs.

bronchitis is a common disease in this country, and is usually obtained by exposure to cold or sud-den change from warm to cold temperature. A moist cold is the more likely to produce it, and it flourishes on a damp soil. At the start its appearance is the same as that of an ordinary cold, but the symptoms soon point to something of a more serious nature. These are feverishness, tightness of the chest, and short wheezy breathing. breathing. and at fi

oxpectorat feeling of

Bromwieh, West, see West Brom- patient's condition may be expected to improve. At the beginning of the attack by placing an car or the stethoscope to the ehest a roaring noise will be heard, due to the passago of the air through the swollen tubes lined with thick niucous; but later on this noise will be replaced by a bubbling, showing that the expectorant is more copious and liquid. A whistling noise in the tubes is a serious symptom, as it indicates that the inflammation has reached the smaller tubes, when the danger of restricted respiration is increased. Expectoratiou should be encouraged as tending to the relicf of the patient, and may be made easier by moistening the air of the room by means of bronehitis kettles.

Capillary bronchilis is a partieularly dangerous form of the above, and is the cause of death to many very young children. In it the very smallest tubes are inflamed, and tho breathing being stopped suffocation occurs. It can be distinguished by the bluish appearance of the child and its manner of struggling for

breath.

Chronie bronchitis is a condition very often found in old people. consists in the regular recurrence of bronchitis, accompanied by a hacking eough but no feverishness, in the autumn, and its continuance throughout the winter, very often persisting throughout the whole year. An attack of acute bronchitis is very liable to increase the susceptibility of tho sufferer, so that great care should be taken in all cases in order that it may not degenerate into the chronic variety. Chronic bronchitis leads to an alteration in the structure of the lung, producing a breaking down of the air tubes, and hence a breathlessness more or less always present. The mucous membrane of the tubes becomes thickened and often ulcerated, and there is a copious feetid expectoration.

Bronchitis may be caused by other means than the catching of a chill. Thus millers, grain shovellers, and all engaged in dusty occupations have been found to be more subject to the disease than others. It has been found that this is caused by the irritation due to the passage of dust (particularly vegetable dust) into the bronchi and the lungs. Then again bronchitis may accompany constitutional weakness such as gout or syphills, or accompany an attack of typhoid fover or measles. All forms of the disease are dangerous in that they are likely to spread, and medical attention should always be obtained. tion afterwards becomes less viscid The treatment will depend on the and more copious, after which the nature and extent of the ailment and

a room of warm and equable temperature.

Bronchocele, see GOITRE

Bröndsted, Peter Oluf (1781-1842), a Danish scholar and archæologist, who travelled in Italy and Greece, where his excavations and explorations were the means of assisting antiquarian study. On his return in 1813 he was appointed to a professorship in the university of Copenhagen. He published a work entitled Travels and Researches in Greece, in both German and French, and also wrote a number of valuable archæological treatises.

Brongniart, Alexandre (1770-1847). eminent Fr. ehemist and mineralogist, was born at Paris, the son of an architect. In 1797 he was appointed prothe fessor of natural history at Three Collège des Quatre Nations. rears later he became director of the porcelaiu factory at Sevres, which under his management became known far and wido for its work. While re-taining this post till the end of his life, he hy no means abandoned burely scientific studies, and he succeeded Hany as professor of mineralogy in the Museum of Natural llistory. It was he who proposed the division of reptiles into the four classes of Saurians, Batrachians, Chelonians, and Ophidians. Among his most notable works were his Traité des Arts Ceramiques, and the Description Géologique et Minéraloquine des Environs de Paris, in which he collaborated with Cuvler. died in Paris on October 7.

Broni, a tn. of Lomhardy, Italy, 10 m. S.E. of Pavia. It has milneral springs, and near the tn. is the castle

of Broni. Pop. 6000.

from Pretoria. Scene Boer ambush in the

1880. A British deta down before war ha

Bronn, Heinrich Ger. geologist, was hausen, near Heidelt himself largely to studies, and his logicus contains a

portant works, was successively prolocant works, was successive pro-cessor of physics and lecturer on zoology at Heidelberg University, and died at Heidelberg. Bronte, at n. of Sicily, in the prov. of Catania, from the cap, of which it is dis-

on the state of the patient, and no on the western slopes of Mt. Etna. The special remedies can be given without of dist. produces wine, and has some knowing the circumstances of the trade in oil and silk, in addition to case. It is important that the patient manuls, of woollen cloths and paper, should he well nourished and kept in Lord Nelson was created Duke of a room of warm and equable tem-Napics. Pop. 20,500.

Bronte, Charlotte, Emily, and Anne, novelists and poetesses, were three gifted members of a singularly unfortunate family. Of the three, Charlotte was undoubtedly the most brilliant, and her work gained her a place among the leading novelists of her time. Their father, the Rev. Patrick B., was Irish; their mother, Maria Branwell, a native of Cornwall. The two cldest children of the marriage, Maria and Elizaheth, were horn riage, Maria and Edzanech, were horn at Hartshead in Yorkshire; the rest, Charlotte (b. April 21, 1816), Patrick Branwell (1817), Emily (1818), and Anne (1820), at Thornton, near Brad-ford. In 1821 the family removed to Haworth. in Yorkshire, to the living of which Mr. B. had been presented. In this lonely place, on the border of the bleak Yorkshire moors, tho children spent their youth. Their father was naturally of an austere disposition, and this was intonsified by the death of the mother in 1821. Henceforward he spent most of his time in his own room, and allowed the household management to be in the hands of his eldest child, a girl of eight. This lonellness encouraged the ehildren in imagining stories, and so we find them all interested in the production of a juvenilo magazine, Charlotte being specially versatile. In 1824, the girls were sent to a school for the daughters of elergymen, recently opened at Cowan's Bridge. Miss B. has described it as Lowood in Jane Eyre, and herself declared that her account was in no respect exaggerated. There was no attempt to provide wholesome food for their bodies or suitable training for their Bronkhorst, or Bronkers Spruit, a minds. The Bs. sungred meason, and in 1825 the two eldest girls were streamlet in the Transvaal, 40 m. and in 1825 the two eldest girls were The Bs. suffered intensely, m easy victims to

of the school, and · their return home. left the school in same year, and on devolved the duty the home and the Sho stayed at · 31, and then went

that has proved of great service to to a school at twehead, where she patteontologists. He pub. other im-later became a teacher, and spent some of the happlest years of her life. Again we have references to this period in Jane Eyre. Some of the acquaintances made now hecame her life-long friends. In 1835, however, her health gave way, and she had to tant 33 m. N.W. hy rail. It is situated resign her post. An annt suggested private school, since Charlotte found that the position of governess in a private house was quite unsuited to her. It was impossible to contemplate this without having some knowledge of French, and so from 1842-44 Emily and Charlotte resided in Brussels. The period seems to have had little effect on the younger sister, as far as her subsequent literary work was concerned, but Charlotte studied not only the language, but the people, to be reproduced afterwards in living reproduced afterwards year they issued a volume of poems, by 'Currer, Ellis, and Aeton Bell,' caeh one keeping her own i The little book was almost in

though what notices it did , ion of her were not unkind. There is little real school-teaching experiences is marked genius in it, with the exception of one or two pieces by 'Ellis Bell.' The young writers, however, were not discouraged, but forthwith each proceeded to write a novel. Charlotte's was The Professor; Emily's, Wuthering Heights; Anne's, Agnes Grey. The work of the two younger sisters wos accepted; Charlotte's was rejected on the ground that the plot was too slight, but favourable consideration was promised to a longer novel. Nothing daunted, she begon Jane Eyre, which was accepted by Messrs. Smith, Elder and Co. in 1847. The success of the hook was extraordinary. Miss B. had not cared for it, since its sensational plot was, she thought, unsuited to her powers. But the unusual abarratorisation, the But the unusual characterisation, tho masculine force of expression, and the powerful use of dramatic situations, took the reading world by storm. The name and personality of 'Currer Bell 'were eagerly eanvassed; but it was not until the publication of her second book, Shirley, that the sceret was revealed. In Jane Eyre, and later in Villette, she had made a more or less within the same and a more or less within the same and a same study. In s

to portray It abounds in humour, and Emily. is a delightful story, but it is said that she was deeply wounded by the reviews passed upon it. views passed upon it. In the year between Jane Eyre and Shirley she had been passing through the most tragic period of her life. For years the only brother, Branwell B., had heen a trial to his sisters. Hé was certainly not as gifted as they, and it has been said in his defence that the austerity of the Yorkshiro parsonage and the melaneholie tendencies of his sisters were enough to excuse Certain it is that when him much. Charlotte returned from Brussels she

that the sisters might attempt a small | found him a hopeless slave to the drink habit, and the succeeding years, to his death in Sept. 1848 marked only a decline in his manhood. Dee. of the same year, the brilliant but morbid genius Emily followed. and in 1849 the gentle Anne. Charlotte alone was left of the whole family. The fame which had disclosed her name in 1849 brought her many friends, and gave her the passport to the best literary society of London, but her retiring nature led her to prefer life in the north country. In 1853 characters in Villette. In 1845, the appeared Villette, her most charming three sisters discovered each other's story, showing her excellences and talent for literature, and in the next defeets more plainly than either of year they issued a volume of poems, the others. It is a better study of herself than Jane Eyre, and its quiet, e evident. is her best

> by shrewd characterisation. chief fault of the book is in the plot, if, indeed, there can be any plot in o story whose interest centres chiefly in persons and not in action. attention of the reader is taken by one set of charocters only to be drawn off by interest in the fortunes of another. We ore first of all engrossed hy Lucy and Dr. John; then by M. Paul and his connection; ogain by the worthless beouty of the school; then by Miss Home and her fortunes. The only continuity is goined by the association of Lucy with all of these, but the book does not lose in interest; rather, we recommaking new ocquaintances through rewards. Pillette was Miss B.'s favourite book, though it was not beer createst. It lacks the fire of devine of plot, the rather, we feel the keen pleasure of enthusiasm, the daring of plot, the dramatle intensity of Jane Eyre, but its native kindliness and gentler treatment make it in some ways a more pleasant book. In 1854 a more pleasant book. In 1854 Charlotte married Mr. Nieholls, the curate at Haworth. He proved a was opposed

her literary ve spent the last year of her life very happily, and died on March 31, 1855. The usual comparison with Miss Austin is almost inevitable in connection with Miss B.'s work, since there is so evident a similarity between. Both were eareful artists in words, and both were more at home with everyday types of humanity than with wild adventure. Both were rather portrait painfers than makers of plots. On the other hand, Miss Austin is far more a novelist of the tea-table than Miss B. The latter had far more dramatic power and more vigour; her work was, in a word, more ambitious than that of the earlier writer. Miss Austin wisely confined herself to the parlour quite recently the Mexicans and and parlour topics; Miss B., if she Peruvians were still in the B. A. It did not range much farther afield, ean only be regarded as a distinct yet shows a power of dramatic period in the culture of the human suggestion which is quite unlike anything in *Pride and Prejudice* or its companions. Emily B.'s genius was of a more gloomy nature than that of her sister. Wuthering Heights is an extraordinary piece of work, one which fascinates by its strange wildness of treatment. Her characters may be unreal and strained, but the spirit of the bleak moor has seldom been better expressed. Her poetry, apart from her celebrated Last Lines and The Old Stoic, gives little indication that she was one of the band who 'sing because they must.' Anne, the youngest, was the gentlest and least intellectual. Her two novels, Agnes Grey and The Tenant of Wildfell Hall, are far weaker in treatment and texture than any of her sisters' work, her poetry, also, being below the average of that of Emily B. the Temple Edition of the Brontes.

Bronx, The, formerly a district in Westchester co., New York; since 1898 northernmost of five bors. of New York city. Bounded by Harlem, Hudson, and East rivs. and Westchester co. Area nearly 40 sq. m. Contains B. Park, with its fine zoological and

b. Fark, with its line zerospical and botanical gardens. Pop. about 300,000. Bronze, one of the earliest known alloys, formed of copper and tin in varying proportions, and often containing small quantities of lead, zince, and silven it is manganese, Iron, and silicon. It is larder, more fusible, and less malle-able than copper. The principal varieties are gun-metal, containing 16 of Cu to 1 of Sn with a little zine; bell-metal, 3 to 5 of copper with 1 of tin; speculum metal, 2 to 21 of copper to 1 of tin; statuary-bronze, of which a representative composition is copper 78.5 per eent., tin 2.9 per cent., zinc 17.2 per eent., lead 1.4 per cent. British B. eoins are copper 95 per cent., tin 4 per cent., and zinc liper cent. B. is also used in machinery bearings und for pump-plungers, etc. Phosphor-bronze is gun-metal to which a slight trace of phosphorus is added.

Bronze Age. This name is usually applied by archeologists to that period in the history of mankind when the metal predominantly used in the metal predominantly used in the production of weapons and general utensils was bronze. It is usually held to have come between the Stone Age and the Iron Age, but these ages are generally admitted now to have overlapped. The age liself cannot be said to denote any chronological period in the history of civilisation, to one race the age came earlier than to another, and until

period in the culture of the human race. On the other hand, there are many archeeologists who deny the existence of a definite period of the B. A., and there is a good deal to be said on their side. Admitting, however, that the Stone, Bronze, and Iron Ages overlapped, the argument that no distinct B. A. existed must fall to the ground, since the 'mixed finds' can be accounted for in this way. But, on the other hand, an argument for which much can be said is that which denies the existence of distinct B. A. because of scarcity of tin in many places where bronze finds have been made, and points out that no copper implements have been found. The upholders of

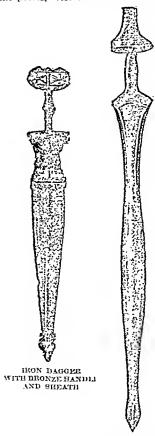


RING MONEY OF THE BRONZE AGE

this argument consider that it is preposterous to jump from a Stone to a Bronze Ago without an intermediate Copper Age. This argument is usually met with the reply that bronze was introduced into various countries from outside and from one of the older eivilisations. The immediate advantage of a mixture of copper and tin over copper by itself would im-mediately be seen. It is, however, also interesting to notice that the weapons of the B. A. have a distinct likeness to weapons of the East, and this goes far to verify the theory that the manuf. of bronze was brought from the outside. The ellief characteristics of the

Stone Age or the later Iron Age. The method of ornamenting the bronzo is also characteristic of the age, consistconcentric circles

as an age of also in that respect from the Stone Age, during chalcoptera is the common which burial had been the general elegans, brush B., and O The pottery of the period is lophotes, crested bronze-wing. handmade and usually ornamented,



pigeon family. Columbidae.

B., P. Ocyphaps

Bronzing, a name given to various handmade and usually ornamented, the decorations being impressed on the pottery before it was fired. The other metallic surface is given to objects of metal plaster or wood. Plaster figures are made to have an appearance of old bronze by first painting green with paint mixed with shellac and then painting over with bronze powder, especially the more prominent parts. This bronze powder consists of finely divided brass, copper, aluminium, or other metal to which a particular depth of shade has been given by oxidation. New metal given by oxidation. articles are made to have the green appearance so admired in bronze antiques by brushing over with a solution of sal-ammoniae and salt of sorrel boiled in vinegar. Again, metal articles can be made almost any colour by immersions in suitable solutions such as platinic chloride. In printing, the design is printed with shellae instead of ink and the sheet treated with bronze powder, any surplus being brushed off carefully.

Bronzino, Angelo (1502-72), an Italian painter and a pupil of Jacopo da Pontormo. His work is chicily da Pontormo. His work is cheen portraiture, and recognised as better than that of his contemporaries. His best known painting is 'The Descent of Christ into Hell,' in the Ufilzi of Christ, Florence, while there are also examples of his work in the National

Gallery, London. Bronzite, a crystalline mineral with a lustre giving it a resemblance to bronze. It is classed as a pyroxene of the rhombic section and is similar in composition to enstatite (which is magnesium silicate), but in addition contains 5 to 14 per cent. of protoxide of iron. It is the sixth and most infusible mineral on Von Kobel's scale of fusibility, being only fusible in very small flakes before the blowpipe. It is very slightly pleochroic and is foliated. Its presence is fairly

common in igneous rocks. Brooch, an ornamental dressfastening, usually consisting of a disc or a semicircle, with a fastening of the safety-pin type attached to it. Bs. are of great antiquity, and were once worn by men as well as by women. The earliest Bs. were of BRONZE SWORD bronze, and were often crude repre-sentations of animals. The early Bs. most common bronze implements of, of Scotland and Ireland were of the the period are swords, daggers, awk, ring shape, and often displayed rich hammers, and arrowheads. Books: ornamentation and fineworkmanship. Lord Avehnry, Prehistoric Times. Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bronze Implements of Several admirable examples are pre1900: Evans, Bro Bronze-wing is a name applied to Irish examples of these old Celtie Bs. Australian species of the is the Tara B. which is to be found Phaps in the museum of the Royal Irish

Brooke, Henry (1706-83), an Irish been purchased for him by public writer. Ho was the son of a rector of subscription. Killinkere, Cavan. He was educated at Trinity College, Dublin, which he entered in 1720. In 1735 he pub. a in 1832, and was educated at Trinity Six-volumed poem called Universal College, Dublin. There he carried of Beauty. In 1739 he produced a the prize for divinity and also for Eng his wife's death.

Brooke, Lord, see GREVILLE.

Brooke, Sir James (1803-66), Rajah of Sarayak, was born at Coombe Grove, near Bath, on April 29, his father being in the service of the East India Company, After being educated at Norwich, he entered the East India army in 1819, and, after being seriously wounded in the Burmese War, ho finally quitted the service in 1830. While travelling in the East he conelived the idea of putting down the plague of piracy in the beautiful islands of the Eastern Archipelago and bringing the hiessings of civilisaand bringing the hiessings of civilisation to the Inhab. Needless to say, no one but a very remarkable man, and one filled with the splrit of adventure, would have ever thought seriously of earrying out such a project, but B. tried and succeeded, Inheriting £30,000 on his father's death in 1835, he equipped a yacht, carefully trained his crew, and, after recliminary equipment splingings sailed in Oct. prellminary cruises, sailed in Oct. 1838 for Sarawak, on the N.W. coast of Borneo. On arrival he found some time, and it was visited by Emerson of the native tribes in revolt against the Sultan of Borneo. He assisted in The attempt ended in failure, and putting down the rebellion, and was abandoned in 1847.

Brookfield, a th. in the state of Sarawak. He Immedit to reform the press. to reform the prov., a gov. soon brought prosperity in its tral

for the plrates that were slain, but after inquiry he was exonerated. He was appointed governor of Labuan opposite and are oblong in Shapo. when that island was purchased by Brookline, a tn. in Norfolk eo., the British gov. He received the Massachusetts, a weathy

Academy, Dublin. Early Bs. have honorary degree of D.C.L. from also been found in Seandinavia and Oxford, and was created K.C.B. in parts of the S. of Europe, where they seem to have first originated.

tragedy, Gustavus Vasa, which though, verse. He was ordained in 1857 and rehearsed was nover performed, for speedily received preference. After one of the characters, Trollio, was holding various benefices in London taken to represent Sir Robert Wal- he was in 1863 appointed chaplain to pole. The play was of a strong the Princess Royal at Berlin. After patriotic atmosphere. During the his return he became minister at St. Forty-five' he received as a reward James's Chapel, York Street, a Forty-invo he received as a reward James's Chapel, York Street, a from the gov. the position of barrack-position he held until 1875, when he master at Mullingar, for his attitude towards the Jacobites. His novel Vieteria. He see eded from the Church A Fool of Quality is his most popular of England in 1880, and was until work. John Wesley and Charles 1894 Unitarian minister at Bedford Kingsley thought highly of it. He Cliapel. He made his mark quickly died at Dublin seriously affected by he most prominent of Eng. mon of letters. His chief publications are: Life and Letters of the late F. W. are: Life and Leavers of the late 1. In.
Robertson, 1865; Freedom in the
Church of England, 1871; Theology
in English Poets, 1874; a Primer of
English Literature, 1876; Riquet of
the Tuft: a Love Drama, 1880; Spirit the Tuft: a Love Drama, 1880; Spirit of Christian Life, 1881; History of Early English Literature, 1892; History of English Literature, 1894; Study of Tennyson, 1894; Life and Writings of Milton, 1898; Poetry of Robert Browning, 1902; Ten Plays of Shakespeare, 1905; Studies in Poetry, 1907; Four Poets, 1908.

Brook Farm, in Massachusetts

Brook Farm, in Massachusetts, 8 m. S.W. of Boston, hecame in 1840 the scene of a communistic experi-ment, inspired by the transcenden-talism of the time. The attempt was organised by George Ripley, who gathered around him a number of highly educated men and women to earry into practice the ideal of a more natural muion between intel-lectual and manual labour. Hawthorne resided on the farm for some

bout 16 m. W. by was burnt to the

gov. soon brought prosperity in its tral trigorous methods age and the rigour of his crusade brought a species of speedwell. It is a perenhim into trouble with the British plant, belonging to the order House of Commons, and he was Scrophulariacea, and grows in ditches charged with receiving 'head-money' and by the edge of streams and ponds. The flowers are blue, and are arranged in axillary racemes; the leaves are

54

suburb of Boston, with some manufe. Pop. 24,000.

Brooklyn, city, is now a bor. of Greater New York City, U.S.A. It is situated on Long Is., opposite Manhattan hor. The two bors, between which flows the East R., are connected by steam ferries and the B. Suspension Bridge (completed in 1883), which is continually crossed by foot passengers, carriage traffic, elevated railways, and electric cars. The Broadway. B. and Manhattan, are joined by another suspension bridge. 118 ft. wide, which is the largest of its kind, and has trackways for every form of passenger and vehicular traffic. The water front of B. is 35 m., whilst its docks, lined with immense warehouses. grain elevators, etc., are very extensive. The two dry docks are sufficiently large to admit the greatest vessels. Besides carrying on an enormous import and export trade, its manufs, are the fourth largest in America, embracing sugar refining, brewing, carpets, steam-boilers, glass, chemicarpets, steam-boners, giass, chemicals, clothing, lace, paper, etc. Among its many public buildings and charitable institutions may be mentioned the City Hall, of white marble, the Institute of Arts and Sciences, the Marine Hospital, and a U.S. navy yard, the chief naval station of America. B. is celebrated alike for its schools including the lebytach picks. its schools, including the Polytechnic for boys and the Packer Institute for girls, and its churches of all de-nominations, where the most distinguished preachers officiate. As the land on which it is huilt is a little hilly. B. is almost a picture-que city. and is very popular as a residential suburb of New York. It has also two public pleasure grounds. Washington Park and Prospect Park. The latter extends over 540 ac., and has two splendid boulevards. It lies on rising ground at the S.W. of the city. More-over, Greenwood Cemetery (400 ac.). hesides possessing many splendid monuments, is noted for its beauty. The Dutch of New Amsterdam first founded the colony of B. (Breukelen) in 1636 It was not incorporated as a city until 1834. Pop. (1906) 1.116.582. Brooks, Charles William Shirley

(1816-74), journalist and novelist, was born in London on April 29. Beginning life as an articled clerk in a lawyer's office, he forsook law for journalism, and after a time became connected with the Morning Chronicle as parl. reporter. He hecame connected with Punch in 1851, contributing. The Essence of Parliament, and he succeeded Mark Lemon as editor in 1870. He wrote various plays and novels, and pub. the results of a Russian tour in *The Russians of the*

South (1556). His novels include The Gordian Knot, 1560; The Silver Cord. 1861; and Sooner or Later, 1868. He

was buried at Kensal Green Cemetery. Brooks, Phillips, American preacher and author, born at Boston, Massa-chu-etts, in 1-35. He entered the Protestant Episcopal Church, and, first at Philadelphia, and later as rector of Trinity Church, Boston (1869-91), he estab, a high reputation as a preacher. He became bishop of Mas-achusetts in 1591, and died on January 23, 1593. He pub, various vols, of sermons, etc., and the hymn 'O little town of Bethlehem' is from his pen.

Brooks's Club, see ALMACK'S.

Wok-Brookwood, part of parish of Woking, Surrey. Station on L.S.W. Railway 28 m. from Waterloo. Noted for asylum for pauper lunatics. Immediasylum for pauper running. Anatom ately adjoining the railway line is the London Necropolis Cemetery. First erected here, 1874. Pop. (urban dist., 1901) over 16,200. Broom, see BRUSHES.

Broom is the name given to several species of leguminous plants, but chiefly to those which belong to the genus Cylisus, a native of Europe and the Mediterranean. The common B. of Britain is C. (or Sarothamnus) scoparius, an evergreen shrub in which the leaves have been reduced to scales. It grows in very poor soil, and attains a height of about 3 ft.: the flowers are bright yellow and papilionaceous, and the fruit is a dark hrown legume with a curious ex-plosive mechanism. The flowers are devoid of honey, and are pollinated by insects which have been attracted by their bright colour. The leaves in the lower part are divided into three leaflets, but the upper scale-like leaves are simple: the wood is a dark greeny-black, and is used in making besoms. Culisus albus, the white B., is a native of Portugal, as is C. paiens, the falsely named Irish B.; C. proliferus albus, a Spanish species, i-used for fodder in Madeira. C. purpureus, the purple B., is a hardy plant, which when grafted with Laburnum vulgare, has produced C. Adami. The species C. racemosus. C. canariensis, and C. filipes are grown in British hothouses, while C. nigricans and C. biflorus are garden plants. The Spanish B., Sparlium iunceum, constitutes a genus to itself. and resembles the common type. has an explosive fruit, yields a yellow dye and also a fibre. species of Genisia also own to the name of B .. but are more commonly called whin or furze, and are noted for their branches which are reduced to thorns. G. monosperma is a native of Spain

which grows on the coast, has white Puritanische Revolution. B. continued flowers, and yields a useful fibr Pauli's Geschichte

Broom-corn, or Sorghum and S. saccharatum, are spe Gramineæ, which grow in N. A. The fruit is eaten by eattle, a tops of the grass are made into brooms. | Review, vol. xxii., 1907.

Broome, a small tn. and seaport of W. Australia, situated on the W. the of Dampier Land ín Kimberley div.

quarters of the pearl fisheries.

Broome, Sir Frederick Napier (1842-96), the son of an Anglican missionary to Canada, emigrated to New Zealand in 1857, and after some years | sea-coasts. there returned to England, and became a contributor to the Times. He was appointed colonial secretary of Natal in 1877, and of Mauritius in 1882, and thereafter held several ap-

pointments as a colonial governor. He died in London.
Broome, William (1689-1745). Eng. writer and translator, educated at Eton and Cambridge. Part-author of prose translation of the Hiad (1712). He condensed Eustathius' notes on Homer for Pope; collaborated with Pope and Fenton in translating the Odyssey (1722-26). He was considered to have done the greater part of the work, and a couplet

written:

'Pope came off clean with Homer, but they say

Broome went before and kindly swept the way.

B. eonsidered his services in this underpaid, and quarrelled with Pope, who revenged himself by a line in the Dunciad, which was later modified, and also in the Bathos. B. puh. sermons and control of the forth of the first o Courthope's

Pope's Correspondence, 1871-89. Broomrape is the name given to some parasitie plants of the order Orobancheæ. They have no ehlorophyll, and their roots prey on the Common of other plants. British species are Orobanche major and O. minor, parasitic on Leguminosa, particularly clover, O. Hedera on ivy, and O. ramosa on hemp.

Broons, a tn. of France, in the dept.

of Côtes-du-Nord. Dinan is 15 m. to the N.E. Pop. 2546. Brosch, Moritz (1829-1907), a Ger. historian, educated at Prague and Vienna; became a journalist; in 1873 he went to Venice and took up ne went to venice and took up mixed together in eold water and historical studies. Among his writings are: Julius II. und die Gründung des Kirchenstaats. 1878; Der some hours, after which the liquid is krichenstaat, 1880-2; Lord Bolingstrained off. The 'food-value' of B. broke und die Whigs und Tories is not high, as the nourishing albumen sciner zeit; Oliver Cromwell und die and gelatin remain in the residue in

vrote a chapter on Ottoman Power' Modern History, English Historical

Broseus is a genus of Coleoptera in e family Carabidæ, or ground the beetles. They are earnivorous, and It is the head- are remarkable for the almost total absence of indented strice on the elytra and for their large and strong mandibles. B. cephalotes is found under stones and rubbish on English

> Brose (Gaelie brothos), a Scottish dish. It is water-B. or heef-B. according as it is made with water or liquor Ing as it is thate with water of inquote from the meat. Milk can also ho used, but whatever the fluid it is poured boiling hot on oatmeal, and the ingredients are mixed by instant stirring. 'Athole-B.,' a Highland drink,

is made of honey and whisky. Broseley, a small tn. in the Wellington parl, div. of Shropshire, about 15 m. S.E. of Shrewshury, known for the manuf. of clay tobacco-pipes and other earthenware commodities. Pop. 4639.

Brosimum is a genus of Moraceæ which grows in tropical America. The inflorescence is curious, consisting of one female and many male flowers, and the fruit is an achene. B. Galactodendron is the cow-tree, or milk-tree, found in Guiana, which yields a milky latex. The fruit of B. Alicastrum is bread-nut.

Brosmius is a genus of fish of the cod-fish family, Gadide. B. brosme, the torsk, is dried and harrelled in the Shetland Islands.

Brosses, Charles de (1709-77), a mau of letters, was the first president of the parliament of Burgundy. His versatility is evidenced by the variety of subjects on which he wrote, and wrote moreover with singular success. In 1750 he published the first work on the ruins of Hereulaneum. In his Histoire des navigations aux terres australes be was the first to define Australasia and Polynesia. Besides contributing to the Encyclopedie, and publishing an ingenious theory on the origin of language, he wrote some famous letters on Italy, and brought out, in 1777, a history of the Roman republic (7th century).

Broth, a liquid food prepared by decoeting meat with bone and vegetables in water. The ingredients are mixed together in cold water and brought gradually to the boil; they lies in the fact that it is a stimulant and a relish. The B. itself contains ereatin and some albuminous and gelatinous matter from the meat, and colouring and mucilaginous substances, a little albumen and volatile too. are now obsolete. oils and salts from the vegetables.

Brotherhoods, associations of people having various things in common for social or religious purposes. During ! the middle ages a large number of with the dorsal. religious brotherhoods sprang upassociations of men united in a common work, yet without the strict rule of a religious order. The guilds, in which the religious element was at first quite as important as the secular, were of the same nature. In the modern Roman Church these B. and confraternities have largely increased in number, and many have sprung up in the Anglican Church. Freemasonry, another kind of B., was con-demned by the Church for gnosticism in the middle ages; and is now on the Continent much affected by atheism and materialism.

Brothers, Lay, a religious confraternity whose members are employed as servants in monasteries. They are bound by monastic rules, but are not destined for holy orders. Brothers, Richard (1757-1824), a British naval officer. He was born at Newfoundland and educated at Woolkyich His fore rests procument.

Woolwich. His fame rests more upon his religious mania than his marine achievements. He was discharged He toured in S. Africa and America, from the navy when a lieutenant, becoming very popular as comedian but returned to the sea after an unand burlesque actor. Tony Lumphappy marriage in 17° viv. in and burlesque actor, tony Lumphappy marriage in 17° viv. in an and burlesque actor. Tony Lumphappy marriage in 17° viv. in an analysis of the sea of this most noted characteristics.

views could not be former calling, and h

sea once more. Even the procedure of obtaining his half-pay involved injury to his convictions and he suffered accordingly. His existence was now maintained either in the workhouse or on the open road, and during this ehequered career he be-came fired with the idea that he was divinely ordained 'the nephew of the Almighty.' He prophesied the death of the king and the end of monarchy. and was consequently confined as a criminal lunatic. Later removal to a private asylum gave him an opportunity to produce many pamphlets resulting in the support of a few zealots. He foretold the violent death of Louis XVI. which was corroborated in fact.

Brothers, The, are three isolated mts., invaluable as landmarks quite close to the coast of New South Wales, between Port Macquarie northwards

an indigestible form; its usefulness works, principally on theology and lies in the fact that it is a stimulant archeology, are now forgotten, they were thought much of in his day. His editions of Tacitus, one of which was pub. in 1771, with commentaries, were his best known works, but they,

> Brotula is a genus of marine fish which is a type of the family Ophidiidæ. It is distinguished chiefly by the dorsal and anal fins being united B. barbatus comes

from the Antilles.

Brötzingen, a vil. in Germany (grand-duchy of Baden), on R. Enns, near Pforzheim. Pop. (1900) c. 6000.

Brouga, a hamlet of the Charente-Inférieure dept. of France. Pop. 601. Brough, market town of E. West-moreland. Pop. 1311.

actress, Fanny B., and brother of the Brothers B.' In his youth he was a journalist, first serving on the Illustrated London News, afterwards on the Daily Telegraph. He pub. its first issue, and started the present plan of newspaper-selling in the streets. At one time he gave 'ghost entertain-ments' at the Polytechnic Institute, and appeared at the Palace and other halls as entertainer and story-teller. B. started his theatrical career in 1854 at the Lyceum. Then he served for a time on the Morning Star, but returned to the stage for good (1863).

Among his Shakespeare parts Tohy Belch, Touchstone, tho Host of the 'Garter' in The Merry In 1872 B. stage-managed Wires. Babil and Bijou at Covent Garden. While under Tree's management he played the Laird in Trilby (1895). Other roles of his were Bumble in Oliver Twist, Brisemouche in 4 Serap of Paper. He appeared in Terry's Sweet Nell of Old Drury (1901), and in Into the Light at the

Court (1908).

Brougham, Henry Peter, Baron Brougham and Vaux (1778-1868), Lord Chancellor of England, was horn in Edinhurgh on Sept. 19. He was educated at the Edinburgh High School, which he entered in 1785 and left in 1791, heing then the head of the school. He early became known as a scientist, and was elected a fellow of the Royal Society as a elose to the coast of New South Wales, reward for various scientific articles between Port Macquarie northwards and Harrinzton Inlet to the S.

Brotier, Gabriel (1723-89), author, of Advocates in 1800, hut saw no was born at Tannay in the old prov. lope of future preferment in a career of France, Nivernais. Although his at the Scottish bar, and so in 1803 be came to London, entered at Lineoln's Inn, and in 1808 was called to the Eng. bar. In 1802 the famous Edinburgh Review had heen founded, and B. became one of its first and most capable contributors, so much so that by the time he went up to London in 1803 he was a man of considerable mark. He speedily hecame known amongst the Whig politicians, and was employed on a diplomatic mission to Portugal during 1806. He produced also a great number of political pamphlets during 1807, and was of immense help to the Whigs of the produced also a great number of political pamphlets during 1807, and in 1808, after being called to the Eng. bar, he joined the northern eircuit. Campbell in his Lives of the Chancellors points out that he did not make his name in legal circles until after he had become actively a politician. About this time ho became novement is more and the production of the confidence of Melbourne on the dismissal of the ministers was the finishing act of his

will ever be elosely associated. He was retained by some Liverpool merchants who were petitioning against the orders in council, and after heing heard by both houses for some days aithough ho lost the case, nevertholess he estab. his reputation. In 1810 he became a member of parliament. In a very short time he had won for himself a considerable reputation as a speaker and politician, and was regarded on all hands as the future leader of his party. From 1812-16 he was ont of parliament, having been defeated at Liverpool, but it was during these years that B. became the adviser of the Princess of Wales. He was urgent in his advice to her not to leave England, and he opposed equally vehemently her return to England after the death of George III. In 1816 he had again entered parliament and did some useful work, especially on the committee which inquired into the state of education amongst the poor of London. in 1820 he was appointed attorney-general for the queen, and conducted her defence when the ministers introduced a bill for her deposition and marriage to ier ably. anı · further by the ministers. As a matter of course his conduct of this case raised him high in his profession, and he shared in the triumph of the queen and the people over the court and the ministers. His reputation as a lawyer was founded, and he rose immediately to an immense practice on the northern circuit. During the next few years his practice grow imnensely, and in 1830 he was returned

Vaux. and given the Reform Act was in a great measure due to the bill, but with which he defended the bill, but with the passing of that bill the authority of B. began to decline. His manner had been rapidly hecoming dietatorial, he regarded himself as indispensable, and he probably used the Edinburgh Review in order to try and increase his influence and for self-glorification. In 1834 Grey resigned, and B. remained for a time with Melbourne. But his conduct was rapidly becoming too indiscreet, and his betrayal of the confidence of Mclbourne on the dismissal of the ministers was the finishing act of his official career. The formation of the second Melbourne ministry in 1835 did not lead to his reappointment as Chancellor, the Scal being put in commission; but B. never forgave tho Whigs for that, and during the rest of his eareer ho spoke as an independent member. He was insatiable in the number of bills while he introduced, and in the number of speeches which ho made. But his vanity received its severest blow when, in 1836, the Great Seal was given to Lord Cottenham. His career during the thirty years which he was yet to live is the record of one long attack upon the holders of those principles which he himself never repudlated. During this period he did some good work on the judicial side of the House of Lords, but his reputation would have been clearer and higher had he died considerably earlier. In 1860 he received a second patent of pecrage with remainder to his younger brother William, the patent setting forth that the peerage was given in recognition of his services to the cause of education. and in the movement for the abolition of slavery. His last days were spent at Cannes, where he died on May 7. In addition to his reputation as a voluble speaker, he was also known by the amount of his writing and eorrespondence. For a considerable time he wrote for the Edinburgh Review, and in addition he published many other writings. Broughton, Rhoda, novelist, born at Segrwyd Hall, near Denhigh, N. Wales, on Nov. 29, 1840, being the daughter of a elergyman. She came

into prominence as a novelist of the popular type while still in her

finally settling at Richmond. Among her best known novels are Comch up ner dest known novers are Cometh up as a Flourer, 1867; Not Wisely but Too Well, 1867; Red as a Rose is She. 1870; Nancy, 1873; Joan, 1876; Belinda, 1883; Dr. Cupid, 1886; Alas! 1890; A Beginner, 1891; Scylla or Charybdis, 1895; Dear Faustina, 1897; The Game and the Candle, 1899: and Lavinia, 1902.

Broughty Ferry, a watering-place of Forfarshire, on the Firth of Tay, 31 m. E. of Dundee, with a station on the N. British Railway. Fishing is almost the only industry, but the tn. is largely used as a place of residence by husiness men of Dundee. The castle, at the E. end of the tn., was repaired about the year 1860, and converted into a defence for the Tay.

Pop. 10,482. Broussa, see BRUSA.

Broussais, François Joseph Victor (1772-1838), the son of a physician, was horn at St. Malo. After taking a medical degree in Paris, he served as an army surgeon, and in 1814 was appointed assistant professor at the military hospital of Val-de-Grace. About this time he introduced a theory of medicine, which asserted that life was sustained only by excitation or irritation, and that all diseases were at first local but were made general by the 'sympathy' of the otherorgans. His views were explained in his Examen de la Doctrine medicale généralement adoptée (1816): met with considerable acceptance, although at first hotly contested by the medical profession in Paris. became professor of general pathology at the Academy of Medicine in Paris in 1839, and died at Vitry-sur-Seine.

the order Moraceæ. From the inner bank of B. papurifera, or paper mul-berry, the Chinese and Japanese manuf. paper, and the S. Sea islanders the principal part of their clothing.

Brouwer (or Brauwer), Adrian, a Dutch painter, born either at Haarlem or at Oudenarde, of poor parents, about the year 1608. He became a pupil of the painter, Franz Hals, at Haarlem, who does not seem to have treated him very honourably, settled at Antwerp in 1630, and did some good work, but led a rather wild and dissipated life. His career was cut short about the year 1840. when he died of plague in an Antwerp hospital. Rubens, under whose influence he had come, gave him a decent burial. His subjects for the most part were drinking groups, tavern scenes, merry-makings, being in themselves a reflection of the life he had led.

Brower, Jacob Vradenberg (1844-

'twenties, and continued to produce 1905), American explorer and archa-works of fiction for many years, ologist, horn at York, Michigan. He served during the Civil War in both cavalry and navy, and was a member of the Minnesota legislature, 1867-73. discovered many prehistoric mounds at Mille Lae and other places in Minnesota. Among his works are: The Mississippi River and ils Source. 1893; Prehistoric Man at the Head Waters of the Mississippi : The Missouri River and its Ulmost Source; Quirira, 1898; Harahey, Mille Lac, 1599; and Kansas. Monumental Perpetuation of its earliest History, 1541-1896 (1903).

Brown, Mt., a peak in the Rocky Mts., on the frontiers of British Columbia, and near the source of the Columbia R. Height about 16,000 ft.

Brown, Charles Brockden (1771-1810), an American novelist. His parents were Quakers of Philadelphia, where he was horn. His delicate constitution favoured a retiring disposition and a capacity for study. He early showed a propensity for the arranging of elahorate architectural designs, a trait afterwards evident in his careful construction of utopias and similar perfect commonwealths. His works are extremely terse in style and weird in conception, and include: Wieland, 1798; Arthur Merryn, 1798; Edgar Huntley, 1801; and Ormond, 1799. He subsequently, upon a decline of his powers, devised a system of geography, and died of consumption on Feh. 22. Brown, Ford Majox (1821-93), an

English painter. His father was a retired navy purser, who at this time lived at Calais, where Ford Madox B. was born. His grandfather was the founder of the Brunonian theory of medicine. At a very early Broussonetia is a diocious tree of lage he showed an especial aptitude for drawing and painting, and he was sent at the age of fourteen to receive tuition at Bruges. His prin. instructor, however, was Baron Wappers, who was at this time regarded as the head of the Belgian school. He first exhibited in 1837, and three years later exhibited in England at the Royal Academy, the picture being 'The Giaour's Confession.' In the same year he com-pleted his 'Execution of Mary Queen of Seots.' In 1843 he took part in the cartoon competition for the mural decoration of the Houses of Parliament, and his pictures received very high praise but no prize. Having on the death of his parents been left with a fair competence, he spent the next few years travelling. From 1840-5 he spent in Paris, Rome, and London, and in the latter year he definitely settled down in London. He married twice: first, in 1841, Elizabeth Bromley, and secondly, on the decease of his

first wife in 1846, Emma Hill. who married in Hugher, who died in his twentieth year (1874). Amongst the chief pictures of Ford Madox R. may be mentioned: Manired chief pictures of Ford Manors
B. may be mentioned: 'Manfred
on the Jungfrau.' 1841; 'Chaucer at
the Court of Edward III.' 1851;
'Cordelia and Lear; 'Cromwell,
Protector of the Vandois;' 'Christ
washing Peter's Feet;' 'Work;'
'Romeo and Juliet.' His style had much in common with the pre-Raphaelite school, but came rather before that movement had reached

its summit. Brown, Sir George (1790-1865), was born and died at Linkwood, Elgin, the on of George B., Provost of Elgin.

mander-in-chief in Irclaud in 1860. Brown, George (1818-80), Canadian politician, born in Edinburgh, and educated there; removed to New Formulation from the Editional Research for the Research in August 1858 formed the Brown-Dorian administration, which re-like, was exceedingly popular, whilst signed in a few days owing to an his Barbarossa (1754) was played adverse vote of assembly. During with success by Garrick. An attack of 1864-5 he led the Reform section of melancholy accounts for his suicide. the Coalition gov., resigning on in 1880.

Se gT: started on his literary eareer in Lonedition with memoir.

He of his working life. Some of his best left three children, Lncy, who married works, however, belong to his later W. M. Rossetti in 1874; Catherine, period, after he had returned to who married Dr. Hueffer; and Oliver, America, notably 'Niagara by Monnlight' (1876).

Brown, Henry Kirke (1814-86), an American sculptor, was born at Leyden, Massachusetts. After studying in Europe, he returned to his native country in 1846, and executed some notable works, including an equestrian statue of Washington in New York, and one of General Scott in Washington.

Brown, Horatio Robert Forbes, Eng. author, born at Nice in 1854. He was educated at Clifton College and at New College, Oxford. In 1878 he visited Venice, where he has since lived much, studying its life and history. His numerous contributions on a George B., Provost of Eigin. Instory. His numerous contributions Entering the army in 1806, he sow to Venetian literature melude: Life on active service in the Peninsular War, the Lagoons, Venetian Studies, Venete, and afterwards in the Crimean War, The Venetian Printing Press, In and was wounded at the battle of Around Venive, Studies of the History Inkermann (1855). He held various of Venice, Calendar of State Papers staff appointments, attained the (Venice), and a translation of Molrank of general in 1856, became comment's Sloria di Venezia. He has mander in the law in 1860. also written a life of John Addington Symonds, and a vol. of poems called Drift.

vehement satire on luxury and the

Brown, John (1722-87), of Haddingthe Coalition gov., resigning on Brown, John (1722-87), of Hadding-account of a difference of opinion re-ton, the son of a poor waver, was garding a reciprocity treaty with the born at Carpow, near Abernethy, U.S.A. In 1864 he was delegate to Perthshire. He lost both father and conferences at Charlottetown and mother at an early age. He studied Quebec, and in 1865 went on a mission [Gk., Lat., and Heb. while working as to London. In 1873 he became a la herd-boy, and a well-knnwn story dominion schator, and in 1874 was tells of his journey to St. Andrews, 24 joint Canadian plenipotentiary with m. distant, to obtain a Gk. Testament. Sir Edward Thornton at Washington. The bookseller lanched at such a re-Sir Edward Thornton at Washington. The bookseller langhed at such a re-He was shot by a discharged employee quest from a shepherd boy, but a university professor, who happened to be in the shop, gave him a copy, He saying, 'Boy, read this, and you shall then have it for nothing.' The boy read a verse, and tramped off with his prize will. The boy read a verse, and tramped off with his prize and much notice (1901). With the gov. forces in the '45, was a schoolmaster from 1747 to 1750, and was a parter at Haddington in university professor, who happened don. His House with the Green to his Tayside hills again. He screed Shutters attracted much notice (1901). with the gov. forces in the '45, was a It represents some of the harder schoolmaster from 1747 to 1750, and aspects of Scottish life, and is useful became a pastor at Haddington in to contrast with the works of Barrie 1751. Refusing a call to New. York in and Ian Maclaren. See Andrew Lang's 1784, he continued to live at Haddington on a stipend of £40 or £50 a year Brown, George Loring (1814-89), until his death. In 1768 he was American landscape painter, was born 'appointed professor of theology to at Boston. He left America before he the Associate Burgher Synod. His was thirty years of age to study art in works included the Self-Interpreting Europe, where he spent the first half 'Bible and the Dictionary of the Bible. pnh. his *Elementa Medicina*, in which he explained a new system of treat-ment. Written in Lat.—he was famous as a Lat. scholar—this hook gained him a world-wide reputation. therefore called for stimulating treatment, is now universally accepted.

Brown, John, D.D. (1734-1858), the son of John B. of Whitburn (1754-1832), and the grandson of John B. of Haddington. He studied at Edinhurgh University and the Burgher Theological Hall, Selkirk, and, after a short period as schoolmaster, was ordained to a pastorate at Biggar. Lanark, in 1806. Thereafter he held successively the pastorates of Rose Street Church, Edinburgh (1822-29).

Syme, to whose qualities his pen paid, of which he was twice mayor and an affectionate tribute in later years. master-eutler. Conscientious and painstaking as a medical man, he was, at heart, more devoted to literature than to medicine, ' though always diffident of his literary He wrote little, but wrote that little extremely well. His chief publications were the collection of essays known as Hora Subsection, and John Leech. In the latter he tells us that it was he who originated the first National Exhibition of Roses in London. He is chiefly remembered for his charming, quaintly written essays, among which Rab and his Friends and Marjorie Fleming are perhaps the best known. He spent all his life in Edinburgh, where he died.

Brown, John (1800-59), American abolitionist, was born at Torrington, Connecticut. He came to he known as John B. of Ossawatomic on account

Brown, John, M.D. (1735-88), was and certainly displayed a stern re-the founder of the Brunonian system ligious spirit, which at times hordered of medicine. Being a lad of promise, on the fanatical. He thought, at he was admitted free to the lectures first, of entering the Congregational at Edinburgh University. In 1780 he ministry, but, after a brief period as pub. his Elementa Medicina, in which a tanner and currier, he turned to land surveying. He gradually became absorbed in the anti-slavery campaign, and in pursuance of that object he migrated to Kansas about the year 1855. He became a leader in the sound doctrine, that morbid action 1855. He became a leader in the was often the result of weakness, and Kansas border war, and at the close of the war he resumed his antislavery campaign. On Oct. 16, 1859, he made his notorious night raid on a federal arsenal at Harper's Ferry, with the object of arming the negroes for an insurrection. He was captured two days later, tried, and hanged at Charlestown, Virginia.

Brewn. Sir John (1816-96),British steel and armour-plate manufacturer. b. in Sheffield, son of a slater. At fourteen he became an apprentice in a file and table outlery manufactory, and Broughton Place, Edinburgh. In of which he ultimately became the 1830, Jefferson College, Pennsylvania. manager. He invented the conical conferred upon him the degree of steel buffer for railway wagons, was D.D., and in 1834 he was elected protein the first to make steel rails, carried on fessor of Exceptical Theology. He and improved the Bessemer process was engaged in many controversies, and invented a method of rolling notably in the Atonement contro-armour-plate. Hammered armourversy of 1840-45. In 1845 he was plate had been used hitherto, but B.'s tried for his views before the Synod, method was so successful that he re-but was honourably acquitted. He ceived orders from the Admiralty for Brown, John, M.D. (1810-82), son he started the huge Atlas Works for of Dr. John B. (1784-1858), was born the manuf. of armour-plate, railway at home and afterwards at Edinhurgh. At Edinhurgh University he studied under the eminent surgeon. was much lonoured in 1867, and Syme, to whose qualities his pen paid

Brown, Launcelot (1715-83), architect, was born at Harle-Kirk, North-umherland, and was known as 'capability B., and acquired the art of landscape gardener early in life. He laid out the grounds at Kew and Blenheim. His architectural works began with a house and church at Croombe for the Earl of Coventry. He became High Sheriff of Hunting-donshire in 1770.

Brown, Oliver Madox (1855-74), an Eng. anthor and painter, son of Ford Madox B. (q.r.). born at Finchley, and showed remarkable precocity both in painting and literature. In 1869 he showed remarkance precours a sorn in painting and literature. In 1869 he exhibited at the Dudley Gallery 'Chiron receiving the Infant Jason from the Slave,' and in 1870, 'Ohstinaey,' His' Exercise' appeared in the Paralla Carlonnia in 1870, his the Royal Academy in 1870; his Prospero and Miranda, at South of a victory which he gained over in Kensington in 1871, and 'A Scene vading Missourians at that place in from Silas Marner' at the gallery of 1856. He was said to have been the Society of French Artists in 1872, descended from a Mayflower pilgrim, 'His literary work, including poems been collected in Literary Remains,

published in 1876. Brown, Peter Hume (b. 1850), a Scottish historian. He is Fraser professor of anet. Scottish history and paleography at Edinburgh University, editor of the Privy Council Register of Scotland, and was appointed historiographer royal for Scotland in 1908. He has done much to popularise the history of Scotland, issuing a number of vols. for use in schools. His other works include: Early Travelters in Scottand, History of Scotland (three vols., the last appearing in 1909), Scotland before 1700,

Times, and A Short History of Scotland. now little known. His publications Brown, Robert (1773-1858), a include: Observations on Darwin's famous British botanist, born at Zoonomia, 1798; An Inquiry into the Montrose, and a school-fellow of Relation of Cause and Effect, 1804; Joseph Hume and James Mill. He entered first the Marischal College, Human Mind, 1820.

Aberdeen, and afterwards removed to Edichurch University the ability processing the school master and divine the to Edinburgh University. His ability and his application attracted the attention of his professor. In 1795 he obtained a commission and served in the N. of Ireland. He hecame a protégé of Sir Joseph Banks, and was, by him, given the post of naturalist

in an expedition which was setting

of the coast of lition returned h a raro collec-

tion of specimens numbering about 4000. In 1810 he pub. his greatest work, Prodromus Flore Nove Hollandia et Insula Van Diemen. In the same year he hecame private secretary to Sir Joseph Banks. The library and collection of Sir Joseph Banks were, on his death in 1820, Museum and became keeper of this hotanical dept. He held this position until his death in 1858. His fame as a botanist was international. He was a fellow of the Royal Society, an associate of the Institute of France, and received the order pour ta merite from Prussia.

Brown, Thomas (1663-1704), an English satirical writer, born at S. pnal in Shropshire, referred to hy Addison as of 'facetious memory.' He studied at Christehureh, Oxford, where he is said to have escaped expulsion by extemporising the famous verse:

'I do not love theo, Doctor Fell, The reason wby I cannot tell; But this I know, and know full well, I do not lovo thee, Doetor Fell.'

Brown was for a time a schoolmaster near London, in which city ho after-

and short stories, the novels Gabriel wards lived by his peu. His writings Denver and Hebditch's Legacy, have are numerous and miscellaneous, and while witty, are coarse and frequently vulgarly abusive.

Brown, Thomas (1778-1820), a distinguished Scottish metaphysician. horn at Kilmarnock, and educated at the university of Edinburgh, where he attended the lectures of Dugald Stewart, professor of moral philosophy. He abandoned his arts course for medicine, becoming doctor of medicine about 1803, and in 1806 a partner with Dr. James Gregory. Resigning his practice in 1810 in order to assist Dugald Stewart, he became a popular lecturer, holding the position until his death. He wrote many Scot- poems of no outstanding merit, but fe of this philosophical works show great His merit and power of analysis, although

> poet, schoolmaster, and divine. He was born at Douglas in the 1sle of Man. His father held the living of St. Matthew's, and was chiefly instrumental in the education of his son. He ated at King ience he proced ford.

Here he , and was rewarded with a fellowship, soon tired of his fellowship, He and returned for a short time to native Isle, where he hecame the viceprin. of his own school. After a short period as a headmaster at Gloucester, he accepted the headmaster of Clifton's (Dr. Percival) offer of the position of master for the modern side. Here he remained from 1863-92, when Banks were, on his death in 1827 he he retired. He publa number of poems made them over to the British and collections of poems, monest which may be mentioned, Fo'e'sle Yarns, 1881; The Doctor and other Poems, 1887; The Manx Witch, 1889, and Old John, 1893. His collected poems wero pub. by Messrs. Maemillan in 1900. Whilst revisiting his cold school (Clitch) in 1807, be asset old school (Clifton) in 1897, he was suddenly taken ill and died there

in October. Brown, Sir William (1784-1864). hanker and merchant, was horu at Ballymena, his father being a linen merchant. Ho was taken at an early age to America, but returned from there in 1809 and settled down in Liverpool. Here he estab. a business. first as a linen merchant, later as an importer of raw cotton, and finally as a banker. His trade increased very rapidly, and so successful was he that the Bank of England helped him to tide over the financial crisis of 1837.

since the interests affected by his firm were so varied. In 1844 he is said to have possessed at least one-sixth of the whole trade between America and England. He was Liheral M.P. for S. Laneashire from 1846-59. In 1863 he was made a baronet. He was a generous donor to the eity of Liverpublic library and museum.

Brown Bess, the name (obsolete since the introduction of the rifle) given by the infantry of the British army to the flint-lock musket used by them in the 18th and early 19th centuries.

Brown Spar, a variety of dolomite containing earbonate of iron.

breunnerite.

Browne, Charles Farrar, a celchrated attention, and he was invited to become a contributor and the editor of a new paper, Vanity Fair, which come chester, which see I menced publication in 1860. The to ill health in 1890. paper failed, and Artemus Ward became a travelling leeturer, meeting in the course of his lectures with adventures more or less varied amongst the Mormons and Indians of America. His reputation as a lecturer was speedily assured, and Ward travelled over the greater part of the American 1864 he was for a short time unable complete works were pub. in the same

Browne, Hablot Knight (1815-82),
year in London. Amongst his ehief
an English artist, best known by
works may be noticed, Artenus pseudonym 'Phiz.' He was born of
Ward, his Book, 1862: Artenus poor parentage at Lambeth. He
Ward amongst hie Fenians, 1865; received what artistic training he
Artenus Ward in London, 1867.

Browne, Edward Granville (b. 1862), orientalist. He holds the position of Sir Thomas Adams, professor of Arabie at Cambridge University, is a fellow of the British Academy and fellow of the Royal College of Physicians. His chief works are: A Year generous donor to the city of Liver- Among the Persuans, Laterary History pool, presenting that town with a of Persua, A Brief Narrative of Recent public library and museum.

Events in Persua, 1909: The Persuan Revolution, 1910: translation of The Foar Pillars of the Persian Constitution; a catalogue of the Persian MSS. in the Cambridge University Library, and a hand-list of its Mohammedan MSS.: an Arabic translation of Ihn Its Islandiyár's History of Tobaristan; colour inclines to red or brown, he has also edited Episode of the Bab The term is sometimes applied to and New History of the Bab for the examples of ankerite, siderite, and Cambridge University Press, and Memoirs of the Poets of Dawlatshah.

Browne, Charles Farrar, a celebrated Browne, Edward Harold (1811-91), American humourist and writer who an English bishop. He was born American humourist and writer who an English bishop. He was born adopted as his pen name Artemus at Aylesbury, and educated at Eton Ward. He was born in 1834 at Water- and Cambridge. He was a fellow ford in Maine, and hegan life as a and tutor of Emmanuel College. In eompositor, later becoming a reporter: 1843 he became vice prin, of Lampeter and a contributor to the newspapers. College. and was later appointed About 1858 he pub. the first of the Norrisian professor of divinity at Artemus Ward series in the Clereland Cambridge. In 1859-3 appeared his Plaindealer, and this series of articles famous book, the Exposition of the received a fair amount of attention Thirty-nine Articles, a book which and popularity both in America and was for a long time the standard work in England. The satire which under- on this subject and which ran into lay the atrocious spelling and the many editions. He became bishop of grave moralising attracted universal. Ely in 1864, and was one of the most prominent churchmen of the time. In 1873 he was translated to Win-chester, which see he resigned owing

Browne, George, Count von (1698-

of the Elector Palatine, since, as a Catholie, he was excluded from many appointments in his own country. From Germany he passed into the states lecturing on a variety of topics. Russian army, where he rapidly disand accompanied by a panorama. In tinguished himself. After successfully quelling a revolt against the Empress to carry out his programme of lectures. Anne, he took an active part in the owing to a severe illness, but on his wars against Poland, France. and owing to a severe mines, and a Turkey. His whole life was full of ad-in 1866 be crossed over to England, venture: he was taken prisoner by the recovery he resumed his lectures, and 'Turkey. His whole life was full of admin 1866 be erossed over to England, venture: he was taken prisoner by the where he speedily made himself Turks, and sev. times sold as a slave, popular. He was known in England Later he fought in the Seven Years' both for the variety and humour of. War, and was wounded at Zorndorf, his lectures, and also for his contributions wounded at Zorndorf, his lectures, and also for his contributions to Princh, contributions which were similar to these which he had, last thirty years of his life he was written on the other side of the governor of Livonia and Esthonia, Atlantic. In 1867 his health again from which position Catherine II, broke down, and in the March of that released him only when extreme old year he died at Southampton. His agerendered this absolutely necessary.

Browne, Hablot Knight, 11815-89.

works and also some for Harrison A Booke which changes the Ainsworth. In 1867 ho suffered from slight paralysis, after which he did put forv no more really successful work. 1878 he was awarded a pension by the Royal Academy.

Browne, Maximilian Ulysses, the descendant of an Irish Jacobite family. He was b. at Basel on Oct. 23, 170a. His father and uncle were two of the exiles of 1690, his father enter-170a. His father and uncle were two tend his doctrines there. He again of the exiles of 1690, his father entersuffered imprisonment, but his atting the Austrian service and becoming tude towards the Established Church ennobled, whilst his uncle entered "

Russian service and became a fic marshal. He himself entered service of Austria at a very early a

and was rapidly pushed on. He had, Church and became vicar of a church however, great military genius, and in Northamptonshire. Here he reto influence he would also have deals in temper, and he was in 1630 thrown the Italian campalans of the Austrian army and distinguished himself also whilst fighting against the Turks. He where he died. His defection from was early in the field during the war carly in the field during the war of the Austrian Succession (1740-48), break up that seet. They remained and it was due to his efforts in the field that the success of Frederick the considerable from the war permained. At the end of the war he was promoted to the rank [land the sect on the considerable for commander-in-chief of the army of pendents or of commander-in-chief of the army of pendents or . Bohemia, and in 1753 he became a field-marshal. He was still an active officer when the Seven Years' War (1756-63) broke out, and he took an active part in the early campaigns. He commanded the Austrians at the battle of Lobositz (1756), where be

3 and dashing

and popularity is very largely due the magnificent manner in which the Austrians fought.

Finden, a famous steel engraver. He a schoolmaster. He, however, took intended originally to be a painter, orders, and remained for a time in but apart from his illustrations for the Church, but bis licence to preach Dickens, Lever, and Ainsworth, his was revoked when be began to attack work is not at all outstanding. He and eondemn the discipline of the became the artist for the illustrations and eondemn the discipline of the of Dicken's Pickwick when it was he denounce the government of the first issued, and always signed his Church that he was imprisoned in drawings as Phiz. He was the creator 1581 by order of the Bishop of of the Sam Weller which all readers Norwich, and only released because of Dickens know, and amongst other of the influence which he could bring very successful creations of his may to bear. After sev, imprisonments he very successful creations of his may to bear. After sev. imprisonments he be mentioned, Mrs. Gamp, Tom retired to Holland, and here he formed Pinch, Major Bagstock, Micawber. a church. The church was not, howand David Copperfield. He also did ever, very successful and soon broke and David Copperfield. He also did ever, very successful and soon broke some drawings for Punch, and did up. Ho bad, in the meantime, issued most of the illustrations for Lever's a number of works, in one of which, and did the beauty the large ways and also come for Hamison defeated the beauty the large. Manners

In modern . built up.

Middelburg, he returned to Great Britain and remained for some time in Scotland. He then returned to his own neighbourhood, and tried to ex-

although his rapid promotion was due mained for about forty-two years, but to influence he would also have de he had always been a man of violent

Browne, Thomas (1605-82), a distinguished writer, took his degree of M.D. at Leyden University in the course of prolonged travel abroad. and finally, in 1634, settled in practice strians at the at Norwich. His claim to renown rests on his Religio Medici, pub. in ated in good 1642, though his Urn Burial probably wounded at displays best the peculiar force of his died on June genius and the old-world flavour of his majestie style. Whilst civil war deleader, a believer in whole hearted vastated the country, he was serenely measures, and to his encouragement absorbed in metaphysical speculation

on the mysterics of life.

Browne, William (1591-1643), an
English poet, born at Tavistock in Austrians fought.

Browne, Robert (c.1550-1633), the Devonshire, and educated at Excter founder of the Brownists. He was College, Oxford. He became tutor to born at Tolethorpe, and was descended from an ancient and well-Carnaryon, and wrote many pastoral known family. He received a good poems, including Britannia's Pasculucation at Corpus Christic College, itorals, 1613, and the Shepherd's Pipe, Cambridge, and was for some time 1614. Several complete editions of

night. He would churn, or thrash the as exemplified in the Ceorn, or clean all the dairy utensils, Children; her romantie compared to the brownie.

his works have been published, and ess, was born at Carlton Hall, Durham, enjoyed a short popularity. Browne, William George (1768-) of her life was spent in Herefordshire, 1813), traveller, was fired to explore at a place called Hope End. During by reading Bruce's Travels. In 1792, the greater part of her life she was after careful examination, be consumed the threatened shadow of consumer cluded that the ruins at Siwah were sumption, and frequently suffered not those of the temple of Jupiter family bereavements, eircumstances not those of the temple of Jupiter family bereavements, erreunstances Ammon. Though later he journeyed which affected her style of writing in through Syria, Asia Minor, and the no small degree. A more tangible Levant, his most important expedition (1793-96) was to Darfur, when he Robert B., the poet, whom she acquired trustworthy information as married in 1846 against the wishes to the Nile's course. He was murdered by banditti it is said, whilst travelling had pub. sev. attempts in literature; towards Teheran. A dry, affected in 1825 appeared the Essay on Mind, and other Poems. Between this date Brownbills, in Staffordshire, an and that of the publication of her next urban dist. in the Liehfield park div.: book, The Seraphim, in 1838, she conimportant coal mines; near the tributed to the Athenœum and other Essington Canal and on the Roman periodicals; in 1846 and 1850 ap-Watling Street. peared two more vols. of Poems. the Brownian Movements, the name first of these Lady Geraldine's Court-given to a phenomenon discovered by ship, leading to her acquaintance Robert Brown in 1827. On viewing with her future husband. The marthrough a microscope a liquid such as riage proved an ideal one, and Mrs. gamboge solution, in which small B. was restored to comparative particles are in suspension, these health by ber residence in Florence, particles are seen to be in constant where the only child of the marriage motion backwards and forwards with was born. In 1853 appeared the Casa motion backwards and forwards with was born. In 1853 appeared the Casa out any regularity or eo-operation, Guidi Windows, Italian in setting and Brown suspected living matter, but sentiment. Aurora Leigh in 1856 was it has been shown by Guoy and a long 'sociological' romance, and Perrin that the phenomenon would proved a distinct departure from her follow from the molecular structure previous work. In the Poems before of matter, being produced by mole. Congress (1860) ber husband's incular bombardment. This theory is fluence was plainly discernible. She strengthened by the observation that died at Florence on June 30, 1861, and the motion of smaller particles is in the next year a vol. of Last Poems greater.

Brownie, in the folklore of Scotland Mrs. Br.'s popularity was assured Brownie, in the folklore of Seotland a goblin of the most obliging kind, when her husband's was still pro-He was never seen, but was only blematical. Certain it is that up to known by the good deeds which he the publication of The Ring and the did. He usually attached himself to some farmhouse in the country, and he was only noted by the voluntary to voluble though she might be occalabour which he performed during the signally her interest in heacure the labour which he performed during the sionally; her interest in her own time, Cry of the tendenev eorn, or clean all the dairy utensis, Children; her romantle tendency or perform some equally good-natured which sometimes leads her into labour. His work was always done at hight. The country people had great buckess May—all these combined faith in the good works of the B. and to make her peculiarly acceptable to believed in him implicitly. His results and was usually a dish of cream been called the greatest Eng. poeters, The B. bears a tracer resemblement to but her work thereby revised end The B. bears a strong resemblance to but her work, though musical and Robin Goodfellow in the Eng. and the metrically beautiful, is so marred by Kobold of Ger. literature, whilst some her fatal inability to understand the comparison can be made between him value of rhyme sounds, that as an and the household gods of the Roms. artist she must give place to Christina and the household gods of the Roms. artist she must give place to Christina and of the domovoy. The Bs. were: Rossetti. She certainly is the most often the cause of the nysterious disperance of things, and in this presed her character best upon her respect can be compared with the work. Her supply of words is extra-Jans, or Jennis, of the Arabs, and also ordinary, and she has a wonderful to the pixies of South-western Eng-power of pathos. Like her husband, land. Practically every known folks she is at her best in lyrical work; with lore has its special fairy which can be compared to the brownie. mpared to the brownie.

Browning, Elizabeth Barrett, poet-be compressed with advantage. In

tutor of his college. Later he was for fifteen years a master at Eton, giving up this post for that of university lecturer in history at Cambridge. He took a prominent part in university movements, including those for university extension and the training of teachers; he aroused enthusiasm for the study of political science and modern political history. Among his contributions to modern history arc: History of England (4 vols.); Wars of the 19th Century; History of Europe, 1814-43; Napoleon, the first Phase; Boyhood and Youth of Napoleon; Fall of Napoleon; and to Italian history; Guelphs and Ghüellines; The Age of

the Condottieri; and Dante.

Browning, Robert, poet, was born on May 7, 1812, in Camberwell. His father was an important official in a bank, but Robert never devoted himself to any profession, being first and last a man of letters. His education was not that of the ordinary round. was not that of the ordinary young Englishman of means, but was privately obtained. During his youth he was noted for his passionate devotion to literature and music, and his intellectual promise was always considered great. Yet, while Tenny-son successfully beat down all critieism, and, perhaps, increased his the acceptance of the renown by Laureate's crown, B. had to struggle against the storm of adverse opinion for nearly forty years before his worth was fully recognised. The essential defects of the poet, as they are generally and perhaps unjustly called, He himself disand carly work. missed Pauline (1833) as Interesting, but unworthy of inclusion among his later works. Paracelsus (1835) has more of beauty and of Interest. Here we get nrried simile which

later g critioriginal lyric form. In 1841 he at gave himself up to work.

the Sonnets from the Portuguese, tempted a drama, Strafford, intended which were addressed to her bushand, for acting by his friend Macready, we have work of such exquisite but met with decisive failure. Three beauty that it bears comparison in years later appeared Sordello, that tone, sentiment, and execution with the greatest in our language. There author's genius for intricate phrase are many of the shorter pieces of and involved thought led to fears whose beauty much might be said, that he must fail in his work. Many ther faults are obvious: they are are the stories told of the effect its Her faults are obvious; they are are the stories told of the effect its blemishes; hut the jewels of her work difficulty had on well-known men of are to he ranked for ever as precious letters. But this 'story of a soul' is stones and set in the silver sea of our surely plain enough to moderate inliterature. Editions of her works are tellects, but the poem has been innumerable. See Life by Ingram. banned by the merciless contempt of innumerable. See Life by Ingram.

Browning, Oscar (b. 1837), historian, son of a merchant. He was cdular those in anthority for the unusual, cated at Eton and King's College, though in themselves of no outstanding of the college of



ROBERT BROWNING

author's lyrical genius for the first time in anything like perfection. Pippa Passes, with its charming songs, is the best of these. In the same year B. married Elizabeth Barrett, the poetess, and for the sake of her health, removed to Florence. The marriage proved an ideal one: are seen in equal measure in his late he speaks again and again of his wife in reverent, loving verse; my perfect wife, he calls her. During this period he produced only two pieces of note, Christmas Eve and Easter Day in 1850, and Alen and Women in 1855, but these were infinitely better than anything he had ever done hefore, and, with Dramatis Personæ (1864), cism of his work on the score of contain perhaps his very best work. obscurity; but here also is the After Mrs. B.'s death, which occurred Obscurity; but here also is the After Mrs. B.'s again, which occurred popularly rapid blank verse, and his in 1861, B. returned to London, and

the Book, which was more than favourably received. Yet it is not great, apart from its real interest as a psychological study. It is based on an old manuscript B. read in Italy, an old manuscript B. read in Italy, telling of the murder of a girl-wife by ber noble husband. The tale is told and retold by each one of the actors, and wonderful art is used in the differentiation of the various characters. Having at last gained attention, B. let few of the next fifteen years pass without at least one or two vols. from his pen. These included translations from the Greek included translations from the Greek, Bolaustion's Adventure and Prince Bolaustion's Adventure and France Holenstiel-Schwangau, 1871; Fifine at the Fair, 1872; Red-cotton Night-cap Country, 1873; Aristophanes' Apology, and the Inn Album, 1875; Pacchiarotto, and how he worked in Distemper, 1876; La Saisiaz, 1878: Dramatic Idylls, 2 vols., 1879-80; Jocoseria, 1883; Ferishtah's Fancies, 1884: Paylenings with Certain People 1884; Parleyings with Certain People of Importance, 1887; and Asolando, 1889. The greater part of these are written in the eurious blank verse which he now affected, and are all marked by the blemishes which even his greatest admirers eannot deny he exhibited in his work. Yet in these appear some of his loveliest lyries, and, indeed, it can be affirmed that Asolando, which was pub. almost on the same day on which his death took place in Italy, contains work as beautiful in form and thought as that in his Dramatis Persona of a quarter of a century earlier. Any estimation of the value of B.'s work must be made more difficult by the fact that towards the close of his life he received an adulation which was as unwise in its attitude as unsuited to his dignity. Since the formation of the Browning Society in 1881 his adherents bave formed themselves into a kind of defensive and offensive alliance, ready to accept all his doings as good, and to challengo the world on his hehalf. Most unwisely, they have given colour to the often reiterated charge of obscurity laid against the poet, by producing handbooks to his works, and even a cyclopedia to all B. references. Such blind devotion has defeated its own ends by making the general reader suppose that B. is difficult, and so has led to comparative neglect. It cannot be too often said that B. is not obscure or difficult; his involved phrases, his mountebank delight in the grotesque and the unnsual, his exasperating hurrying and crowding of ideas may bewilder, astound, and often irritate, but they are never gist. He was born at Mauritius. His hopelessly not to be comprehended father was an American in the naval For a detailed study of this, the service, and his mother a French-

appeared the stupendous Ring and reader is advised to obtain Mr. G. K. Chesterton's delightful and valuable book. Apart from this admitted defect, even his most biased opponents ean say little, unless it be against his metrical diversions. His lyries for form and sentiment are glorious. The Last Ride Together, Prospice, Love among the Ruins, to choose only three, are noble examples of his art. Though so much of his work bears the effect of Italy, yet he is essen-tially the Englishman in Italy, patriotic in heart, although by eboice cosmopolitan. He is, again, the poet of the It. Renaissance, and to our idea has caught the very spirit of it; witness the cruel beauty of My Last Duchess, or the grotesque pathos of The Bishop Orders His Tomb, to choose only two out of many. His interest in art and music is probably a result of early inclination, and his later surroundings. In his attitude towards Nature it may be taken generally that, like Wordsworth, he gives her a pensonality, but, unlike him, eonsiders that pensonality distinet from, and usually hostile to, the But it is in his dramatic human. lyries and monologues that ho is most often at his greatest. Such pieces as The Last Ride Together, Rabbi Ben Ezra, and Holy Cross Day, will be remembered when his more ambitious works of greater length lie forgotten. Through them we see the poet himtolcrant self, hopeful always, tolerant of others, and believing, God being in this Heaven, that the best was yet to be. There are few poets who so nneonsciously disclose themselves in their works. See Lives by Chesterton, Sharp, Waugh, Orr, etc.

Browning Settlemeat, founded in 1895; for the furthernees of the Figure 1895.

1895 ' for the furtherance of the Kingdom of God, as it is declared in the Gospel of Jesus Cbrist . . . by every means available to promote the full and happy development of body, mind, and soul.' The Settlement is a eentre of lively effort for improving the conditions of life in Walworth, for educating the citizens and beautifying the neighbourhood. It has founded the Bethany Homes for the Aged at Whyteleafe. Address of Settlement: Cambridge House, 131 Camberwell Road, London, S.E. Warden (1912), Rev. Herbert Stead, M.A. Browning Society, founded in 1881 by Dr. Furnivall and Miss E. H. Hickey in appreciation of Browning and to further the study of his works. The society no larger cyiets.

The society no longer exists.

Brownists, see Browne, Robert. Brown-Séquard, Charles Edward (1817-94), a famous British physiolo-

woman. He took his medical degree at Paris in 1846, and returned to the Manritius intending to practise there; however, he went from there to America in 1852, and subsequently the came hack to Paris. He attracted the came hack to Paris. He attracted the considerable attention by his lectures in the dept. of Pas-ac-Calais, situated to the Large Pas acceptance on th of Harrard, and five years later he also carried on.

again returned to Paris as professor bruce, see El Bruce, see El Bruce, see El Bruce, Edward Bruce, Ed Yet again he left Paris to return to America where in 1873 he set up in New York as a practitioner and a nerve specialist, and yet again he was sent on a mission to Queen he returned to Paris when, in 1878, he Elizaheth, the first time to suggest became the professor of experimental that she was encouraging popish connections in the Collège de France. spiracy by befriending Bothwell. He He remained in this position until his accompanied King James to England tributed largely to the medical knowand papers.

Brownson, Henry Francis, son of theological, philo-American sophical, and sociological writer, Orestes Augustus B., who died in 1876. He has puh. his father's varions vol. Other works: Brownson's Early, gal. Middle, and Latter Life, and The MSS.

Convert.

Brownson, Orestes Augustus (1803-76), an American philosopher and an Independent, a Unitarian, and a the ruins of Barbary, and after an Roman Catholie. He wrote strongly examination of most of the ruins of E, and with great ferrour on all the Algeria he travelled to Tripoli and theological and philosophical questioners thence to Candia. During the wreck tions which agitated his times. He of his ship he was obliged to swim founded the Boston Quarterly Review, ashore. He subsequently travelled 1838, and Brownson's Quarterly Rethrough Syria, staying at Palmyra view, 1844. He also took a very active and Baalbek. He reached Alexandria view, 1844. He also took a very active and Baalbek. He reached Alexandria interest in all the social and political in 1768, and successfully accomproblems of the day. His chief works: plished a long cherished dream, the were Chorles Elwood, or The Infield: discovery of the source of the Blue Converted, 1880, a hook in which he Nile in 1770. The scepticism with strongly supported the Roman Cathowhich lis account was received in lic Church; and The American Republic: its Constitution, Tendencies, ment, and he retired to his estate at and Destinu. 1863. and Destiny, 1865.

Brownsville, the co. tn. of Cameron pique sufficiently to publish an co.. Texas, situated on the Rio account of his travels in 1774, and Grandc, ahout 25 m from its mouth, though the expert criticism of its in the Gulf of Mexico. It has a riv. authenticity was then strong, the trade, and is the commercial centre main facts have since heen corroborof a rich agric. dist. In 1846 there was a notable bomhardment of a small U.S. force, which had occupied the

place. Pop. 7000.

6 m. S.E. of Linlithgow, and 12 m. ments for the Camden Society, whose

on the pathology of the nervous on the Lawe. B. is an important insystem. In 1864 he became productive dustrial tr. in a rich coal-mining dist. fessor of physiology at the university Brewing, sugar and glass making are

Bruce, see Elgin, Earls of. Bruce, Edward (c. 1549-1611), advocate, actively npheld, in 1587, the

rights of the lords spiritual to sit in parliament. Both in 1594 and 1598

death. He lectured frequently in on his accession, having, in 1601, by England, and always desired to be his diplomacy opened up the famous known as a British subject. He con-correspondence between his master his diplomacy opened up the famous eorrespondence hetween his master and Sir Rohert Cecil. ledge of the period, especially to the knowledge of the nervous system. Explorer of Africa. He was horn in Stirlingshire, and was educated at and papers.

Harrow and Edinburgh University. He commenced studying for the bar, hut entered the wine business on his union with the danghter of a wine merehant. The sudden death of his wife, occurring within less than a year writings: Brownson's Works in 20 of their marriage, led to his sub-vols., and a summary of these in one sequent travels in Spain and Portu-He examined some castern MSS. in the Escurial, and the consequent enthusiasm developed into the adoption of his career as an explorer. He was selected as British consul of Algiers, and given a commission to theologian, was born at Stockhridge, Algiers, and given a commission to Vermont, on Sept. 16. He was in study the ancient remains there. In turn a Preshyterian, a Universalist. 1765 he commenced an exploration of

ated. See Autobiography, 1805 and 1813. Bruce, John (1802-69), antiquarian, horn in London. He ed. a great num-Broxburn, a vil. of Linlithgowshire, her of memoirs and historical doen-

though the expert criticism of its authenticity was then strong, the

He recovered from his

Kinnaird.

Yuseum.

Elucidated, 1856; and Lapidarium Septentrionale, 1875, an account of the Roman monuments in the north

of England. Bruce, Michael (1746-67), Scottish bet. He was born at Kinnesspoet. wood. Kinross-shire, and was taught, to read before he was four years old. His education was seriously hampered by his interrupted attendance at school, for he was often required to act as herdsman. His health was delicate and his manner quiet and devotional Circumstances proved sufficiently kind to allow his subse-quent entry into Edinburgh Uni-Circumstances proved versity. He accepted the charge of a school near Clackmannan later in life, and wrote Lochleten in spite of broken health and accompanying depression of spirits. His first work is an Elegy written in Spiring. He now became very ill, and died in advanced consumption. John Lozan is alleged to have stolen many of his poems.

Bruce, Robert (1274-1329), the national hero of Scotland. On the death of his father in 1304, he became sixth lord of Annandale. At the becinning of his career he supported Edward L, hoping, doubtless, to secure his father's accession to the a school near Clackmannan later in

to secure his father's accession to the Scottish throne. Thus as Earl of Carrick, he swore fealty to the Eng. carrick, he swore leafly to the Ling.

monarch at Bervick, and in 1297 renewed his oath at Carlisle. Shortly
after this, however, he served with
his vassals under Wallace, the popular swed, the consequence of which was
leader in the War of Independence, that B. in an access of uncontrollable
out after the capitulation of Irvine,
he was again at peace with Edward;
hat he was guilty alike of assassination and sacrilege, he ran outside to
hurned the castle of Ayr, whilst fire
the English side, during the siege of Comyn. 'Doubt!' retorted KirkSticling. Henceforward, however,
there was no vacillation; he appears
always as champion of his nation's
liberty, as one who, five centuries
later, was to be the inspiration of
later, was to be the inspiration of
after was crowned king by the Bishop
of St. Andrews, undertaken
Bishop of St. Andrews, undertaken
as a means of defeating Edward's
that he would be a summer but not monarch at Berwick, and in 1297 re-

treasurer he was, and for the Ashmo-!ambitious projects, was an important lean and Parker Societies. In 1861 step in his career. For of all the he was appointed by the Society of clergy. Lamberton had been the Antiquaries to be curator of Soanes most loval supporter of Wallace, and was therefore, after his meeting with Museum.

Bruce, John Collingwood (1805-92),
B., a firm bond of union between the an English antiquary, born at Newcastle, and graduated at Glasgow in two leaders in the national more castle, and graduated at Glasgow in ment. But the turning point in B.'s 1826. After having spent some years career was the murder of the Bed in training for the Presbyterian Comyn, in 1395, on the high altar of ministry, he became a teacher, in the church of Friars Minor John, which profession he remained till 1863. His publications include The some compact with Comyn, who was Roman Woll. 1851, to which was Baliol's nephew, as to their respective added in 1863 a Handbook to the Claims to the throne. It is certain at Roman Woll. The Bayeux Tapestry least, that when they were together Elucidated. 1856: and Lapidarium



STATUE OF ERUCE AT STIPLING

he was obliged to lead a wanderer's national champion, who was beloved life in the W. Highlands, until he and respected by his people as was managed to escape to the Is. of Rathlin (off Antrim, Ireland). Many by the Romans. His distinction as are the stories, which Barhour col- lawgiver and administrator was not leeted from the people themselves, of inferior to his military genius. Be-the hairhreadth escapes of B. and of sides providing equal justice for rich the hairhreadth escapes of B. and of his valour and calm submission and poor, reforming the abuses of the throughout all the vicissitudes of fortune. Meanwhile his friends at home gave him up for dead, and estates, he made many wise programment of vengeance. The castle of Kildrummie was captured, its defenders expectation, and the queen was ruthlessly taken from the sanctuary of St. Duthac, at Tain. B.'s lands were excommunicated. But B.'s days of hardship and reverse were nearly Bruce, William Spiers (b. 1867), a of hardship and reverse were nearly over. Early in 1307 he landed at Carrick, and though he was forced for a time to take refuge in the hills of Ayrshire, he railied his forces, and at Loudon Hill subdued the English under the Earl of Pembroke. final success was assured by the death, in 1307, of his formidable adversary, Edward II. so effec King Edward. Edward II. so effec-tually wasted time over the funeral and the faseinations of court life, that by 1308 B. was in possession of all the great eastles, with the exception of Stirling. And this stronghold, too, fell into his hands after his memorable defeat of the English at Bannockburn (1314). His superior generalship had deprived the enemy of their hage It was an numerical advantage. epoch-making victory, for never again did an Eng. monarch conquer Scotland. In 1318 B. captured Berwick, which was henceforth a Scottish, instead of an Eng., frontier tn. On the accession of Edward III., the Scots made wide inenrsions into the northern counties, but the treaty of Northampton (1328) finally closed hostilities. By its chief clause 'Scotland shall remain to Robert, King of Scots and his heirs, free and un-divided from England, without any subjection, servitude, claim, or demand whatsoever.' The fighting days of B. were now over. The last two years of his life were passed at Cardross Castle, on the Firth of Clyde. He was a victim, alas, to the ravages of leprosy, which he had contracted during his campaigns. On his death his heart was extracted, embalmed, for the subject.

a winter king. In June 1306, he was surprised by the Earl of Pembroke, commander-in-chief of the Eng. army, salem, but he died whilst fighting in Methren wood, and was compelled the Moors in Spain. The relie was to seek refuge in the moors of Athole. Two months later he suffered a second defeat, near the head of Loch Tay, at the hands of the Comyn's uncle, In Sir Walter Seott's poems will be Lord of Lorn. Leaving his queen at found many references to this story. Kildrummie Castle, Aherdeenshire, Such was the end of the Scottish be was obliged to lead a wanderer's national champion, who was beloved his country.

Bruce, William Spiers (b. 1867), a

Bruch

Scottish explorer and geographer. 1892 he went out as naturalist of the Balæna, one of a little fleet of four ships bound for the Antarctic and the adjacent seas. This expedition went out chiefly in the interests of commerce—to look for the valuable Greenland whale. But the Royal Society, the Victoria valuable and the Royal Society, the Victoria valuable society.

Society, the and sev. pri-the fleet wi and appoint the work of There had t Antarctic si

1842, and B. did valuable work in widening the field of scientific diswhiching the held of Selenthic discovery, and especially in pointing ont what directions future effort should take. In 1902 he was the leader of an expedition of which he has written a report: The Scotlish National Antarctic Expedition—Scientific Results of the Voyage of the S.Y. 'Scotia' during the Vegra years. during the Years 1902-4. In 1911 he issued Polar Exploration.

Brucea is a genus of plants of the Simarubaeeze, named in honour of James Bruce, the traveller in Abyssinia. B. antidysenteriea is a native of Abyssinia and is said to he a tonic and an astringent; the leaves and seeds of B. Sumatrana are intensely bitter and possess the same medicinal properties.

Bruch, Max, musical composer, horn at Kolu, on Jan. 6, 1838. He was early taught the rudiments of music by his mother, and showed at a deeidedly carly age a considerable genius In 1853 hc was conabled to study at Frankfort under tury, and has a fine castle. Pop. the most brilliant teachers of the day, 5000. 2. A town in Upper Styria. and afterwards became a music teacher in his native city. He produced his first opera in 1858. After 1861 he made an extensive tour, tn. in Bavaria, on the Regnitz, 15 m. visiting most of the large Germantus., and especially those which were famous for music. He subsequently became musical director at Cohlenz, land, see Brugg. and afterwards went to live in Berlin, previously visited it. and having been in the valley of the Sinn, ahout 2 m. offered the conductorship of the from the town. Pop. 2000. Stern Cheval Union. Two years later Brucker, Johann Jakob (1696-he became conductor of the Liverpool 1770), Ger. historian of philosophy.

tentiary organised on the lines of the town. Pennsylvania system. Pop. 14,000. Bri

in ' roi

was first isolated in 1819 by Pelletier and Caventon. B. is a tertiary base closely allied with strychnine, but is more soluble in alcohol and water, is kapelle, in Vienna, where he was also less bitter, and has a much less poison—a professor at the conservatorium. ous effect on the system. The anhy—He is noted for his wonderful exdrous alkaloid melts at 178°. The temporisations. B. played in Paris crystalline form is prismatic and contains ordinarily four molecules of positions his nine symphonics are the water. It turns a bright red colour most important. with nitric acid which yields nitro-derivatives, and at the same time aets an oxidising agent.

Brueys, David Augustin de (1640-1723), a Fr. theologian and dramatic as an oxidising agent.

Brueys, David Augustin de (1640-1723), a Fr. theologian and dramatic author. B. early ahandoned his

Brückenau, a fashionable wateringwhere he produced another of his place of Lower Franconia, Bavaria, famous operas. In 1878 he came to 36 m. N.W. of Würzhurg, with settle for a time in England, having mineral springs pleasantly situated

(1696he became conouctor of the Liverpool 1770), Ger. historian of philosophy. Philharmonic. In 1893 he was made: He was a native of Augshurg, and was direct of the Hochschule and returned to Berlin. He received the honorary degree of Mus. Doc. from Cambridge head parish minister of Kaufbeu-Luiversity in 1893. His chief productions are Schere, List, and Rache, a member of the Academy of Sciences 1855; Lordeit, 1863; Frilligh, 1864; at Berlin. His chief work is Historia Odysseus, 1871.

Benefick a manufacturing to and attained immediate success. His Bruchsal, a manufacturing tn. and attained immediate success. railway centre on the Saalbach. 12 other works now little known, include in. N.E. of Karlsruhe, in the grand-Olium Vindelicum, 1731, and Erste duchy of Baden. It has a castle of Anjangsrunde de Philosophischer some historical interest, and a peni-Geschichte, 1751. He died in his native

rentiary organised on the lines of the Pennsylvania system. Pop. 14,000.

Bruchus is the typical genus of the Russian historian, b. at St. Petershurg, eoleopterous family Bruchidæ. The females deposit their eggs in the seeds, and the acases of leguminous plants, and the student first at Heidelherg, then at matured larva feeds on the seeds, and Jéna, then at Berlin. He was appnay thus do much damage. B. pist pointed to the chair of history at St. is a native of Britain which devours Petersburg, Odessa, and Dorpat suepeas, B. Jabea beans, and B. granarius (Ger. He is known chiefly by his very Brucia, or Brucia, or Bruciae, is a vecetable important works on the history of Brucia, or Brucine, is a vegetable important works on the history of alkali which is found with strychnine civilisation. His Kulturhistorische

was pub. in 1878; this was by a History of Russia in

by a History of Russia in and 18th Centuries; Iwan Ignatius, in the wood of S. Colubrina | Possoschlov: Peter der Grosse; Katheand the bark of S. liente. It acts on rine die Zweite; and in 1883 Beiträge the human system as a violent poison, our Kulturgeschiehte Russlands and but is less powerful than strychnine. Brueine (C.14.N.20), a vegetable alkaloid found in company with strychnine in nux vomica and false. Brückner, Anton (1824-96), Austrian Angostura bark, from which latter it organist and composer. He was the was first isolated in 1819 by Pelletier.

ost of

1853: Hof-

Bruck: 1. A small tn. of Lower career as a lawyer, and gave himself Austria, on the Leitha, 24 m. S.E. of up to theological controversy. At Vienna. It dates from the 3rd center tempting to refute Bossuet, he was

An ardent frequenter of the Comédie-Française, B. soon began to write plays himself, generally in collaboration with Palaprat, so as to avoid publishing in his own name. He gained his reputation chiefly as the author of Le Grondeur, Sot toujours Sot, and L'Avocat Patelin. This last This last comedy gave rise to the adjective patelin applied to a person who tries to gain his ends by flattery and fine words.

Bruges (Dutch, Brügge, or Bruggen), the city of bridges, cap. of the prov. of W. Flanders, Belgium, situated about 50 m. from Brussels, at the junction of sev. important railways and canals. It is situated in lat. 51° 12′, long. 3° 13′ E. The town still keeps its medieval appearance to a very great extent, and the effect of this is added to by the retention of its old eity walls, and its mediæval citadel. It is one of the most flourishing of all Belgian cities. It owes its name to the number of bridges which the tn. contains, and is remarkable for the antiquity and grandeur of its old Gothic buildings. In particular two of its Gothic buildings, both of which date back to the 14th century, may be mentioned, the cathedral of St. Sauveur and the church of Notre The cathedral still has a Damc. magnificent appearance, but was much injured in the fire of the early part of the 19th century, and contains a number of interesting and valuable pletures. The church of Notre Datue contains the tomb of Charles the Bold and of his danghter Mary of Burgundy, and has also a collection of marble statues, one of which is Amongst other by Michael Angelo. buildings of interest which may be mentioned are: the Halle with a Gothic beliry and the most magnificent chimes in Europe; the Palace of Justice, and the bôtel-de-ville. The chief manuf. of the tn. is lace, which gives employment to a very great number of people. Other manufs. are linen, woollen and cotton, tobacco and soap. By means of its canal communications it can trade with a number of the parts of Europe, and in particular mention may be made of the ship canal to Zeebrugge, which has opened up and developed the trade with Hull. The town is in-creasing very rapidly both in prosperity and population. The history of the town is also interesting. It sculpture of Peter Bis dates probably from before the 7th Count Baldwin of the Iron Arm, He has also left a who made it his chief residence. By mythological subjects.

himself converted by Bossuet from the 12th century it was recognised Protestantism to Catholicism, be as the most important town in, and came a priest, and wrote now chiefly the cap. of, Flanders, and it was with the object of converting Protest here that the various counts were proclaimed. During the 13th and 14th conturies B. claimed equal place with Ghent, and was the recognised centre of the Hanseatic League in Middle-Northern Europe. Its commerce was developed along wise lines, and it speedily assumed and for some time kept the premier position amongst the trading tas. of Europe. The order of the Golden Fleece was instituted here by Philip the Good in 1430. In the 15th century it rose up in revolt against the Duke Maximilian, and the measures of repression which were adopted gave the first severe blow to the trade of the city. Its pop. at this time probably exceeded 200.000. The decline begun by the revolt against the ducal power, and by the repression employed to keep that spirit sion employed to keep that spirit down, was completed by the persecution of Alva and Philip II. Many of the traders and merchants fled the town, and its prosperity rapidly declined. It was captured by the Fr. in 1794, and became part of the United Netherlands in 1815. Later, in 1830, it became a part of the kingdom of Belgium. The pop. at the present time is about 54,000.

Bruzes, Boger van, or Rogier van

Bruges, Roger van, or Rogier van der Weyden (1400-64), a Flemish painter, born at Tournay, and sometimes said to have been a pupil of John van Eyek. About 1436 he was appointed town-painter to the municipality of Brussels. A great many paintings of religious subjects have been attributed to him, and some are exhibited in galleries in Germany and elsewhere which are usually accepted

as his work.

Brugg, or Bruck, a tn. in the canton of Aargau, Switzerland, on the Aar 10 m. N.E. of Aargau. It was the early home of the house of Hapsburg, and several members of the Austrian royal family lie buried at what was formerly the abbey of Königsfelden, adjacent to the tn. B. was the bp. of

adjacent to the th. B. was the 5p. oi so many theologians that at the Reformation it became known as 'the town of the prophets.' Brugger, Friedrich (1815-70), a Ger. sculptor, born in München. He studied for two years in Italy, 1841-43, and on his return received from King Ludwig La comprission for a number Lndwig I. a commission for a number of marble busts for the Ruhmesballe, or Temple of Fame, and a series of bronze statues for München and other towns. He produced models of the sculpture of Peter Bischer, Ghiberti, Donatello, Cellina, Gibson, and Schwanthaler, for the Girptothek. He has also left a fino series of

uney are all devoid of chlorophyll and controlling the colour of the injury. In colour of Leguminosæ, and have ambisporangiate flowers.

Brugsch, Heinrich Karl, an eminent is the effect of viewing the luck is the controller, and was born in the and tissues. In severe cases the subbarracks at Berlin on Feb. 18, 1827. The patronage of Frederick William IV. enabled him to visit the prin. museums of Europe, and he first went to Exypt in 1853, being sent there by the Prusslan gov. He there made the friendship of Mariette, the Fr. archætions at Memphis. He was for some time professor of Oriental language at Gottingen, hut afterwards (1870) became director of the School of became director of the School of Egyptology at Cairo. He was eventually forced to leave that post by the Europeans who controlled the school of graphieche Inschriften dittiguptischer Derkmidler, 1857.

Egyptens unter der Brühl, $a \, {
m tn.} \, {
m of} \, {
m R}$ S.W. of Cologne on a spur of the Eife

Bruises, injuries in which there ment consists in promoting circulation of the part for the purpose of the purp by a blow or pinched.

accompanied by discoloration of affected part and generally so The discoloration depca swelling.

Brugmansia, or Datura: I. A genus, and the condition of the person, soft of Solanacee which is sometimes cul- parts are more affected than others. or solunaceæ which is sometimes cui-parts are more affected than others, tivated in Britain. Datura arbora is the lax tissnes of the eyelids heing one such species, and D. Stramonium especially liable, and fat people more is the thorn-apple. 2. A parasitic plant which belongs to the Rafflesiaceæ, or dueed by the rupture of small blood the larger group Cytinaccæ. There are vessels below the skin and the passage only three species, all of which are of blood from them into neighbouring natives of the Malay Archipelago, and they are all devoid of chlorophyll and controlling the colour of the injury. Foliage-leaves. They are narasitic on The general colour is numbe: with foliage-leaves. They are parasitic on The general colour is purple; with

before or after death, there period (ahout two hours) ath in which a bruise ean he although less seriously than Those inflieted after death

Brühl, Heinrich, Count von, chief can he distinguished from others by minister and favourite of Frederick, the fact that they are not generally Augustus III.) (otherwise known as accompanied by swelling, and an in-Augustus III.), King of Poland and eision fails to discover much coagu-Elector of Saxony, born at Weissen-lated hlood. The treatment of a fels on Aug. 13, 1700. Beginning life bruise will depend upon its nature as a page in the service of the Duches's and the time which has elapsed since Elizabeth of Saxe-Weissenfels, he became Prime Minister to Augustus II. not severe or dangerous it will conin 1746, and aided and abetted that sist in preventing the discoloration. Me played fast and loose with the form pressure to the injured part for finances of the country to such an a considerable time. Thus a cold extent that when the Seven Years' compress helps to stop the hemory War broke out, Augustus could only rhage from the blood-vessels and at send a small force to meet Frederick the same time favours coagnilation. send a small force to meet Frederick the same time favours coagulation, of Prussia, and his army was hope-the cold raw beefsteak of the pugilist lessly beaten by Frederick at Pirna, being a remedy of this type. During B. died on Oct. 28, 1763, three weeks this process the part treated should after his royal master. His library of be at rest. When, however, the bruise 62,000 vols. now forms part of the has been left to itself and the dis-Royal Library at Dresden. coloration is in evidence, the treat-

> ım, id. Ъc

both on the nature of the part struck taken to a surgeon as soon as possible.

unpleasant complications may his reputation by his set in.

Brülov, or Brylov, Constantin Karl Pavlovitcb (1799-1853), a Russian painter, born at St. Petersburg, and tists, and contains B.'s not died at Marciano, near Rome. He be-analysis of the various pieces. gan his studies at the Academy of St. Petersburg, under Ivanov, and continued them for six years in Italy, 1819-25. At Rome he made copies from Raphacl, by order of the Czar, the most notable being 'L'Ecole d'Athènes.' On bis return to Russia, he was appointed painter to the court, and in 1836 professor at the St. Peterburg Academy. He travelled extensively in Greece, Turkey, and other Oriental countries. His work included genre and sacred painting, oil por-traits, and large historical pieces. Among his most noteworthy pictures arc' Le dernier jour de Pompéi; 'La mort d'Incz de Castro; 'Le siège de la ville de Pskov; 'La mort de Laoceon; 'Le baiser de Judas; ' 'Portrait de la grande-duchesse Olga Nikolaïevna;' and 'L'invasion de Rome par Genseric.

Brumaire, the name (meaning forgy month') of the second month of the Republican calendar, estab. in France in 1793. The eighteenth B. (of the year VIII.), corresponding with Nov. 9, 1799, of the Gregorian calendar, was the day on which Napoleon overthrew the Directory

and replaced it by the Consulate. Brumath, or Brumpt, a tn. Lower Alsace, on the Zorn, 10 m. N. of Strasshurg. It has mineral springs, and minor industries are carried on

Pop. 5550.

Brummell, George Bryan (1778-1840), known as 'Beau Brummell,' was born in London. He was educated at Eton and Oriel College and a few years later, upon

a fortune of £30,000, he ga-

up to the pleasures of s London. his taste in dress, though that, while clegant and precise, was never extravagant. For many years he enjoyed the friendship of the Prince of Wales (afterwards George IV.), but they quarrelled in 1813, and soon afterwards gambling losses drove him to France. He lived at Calais for fourteen years, and then (1830) was appointed consul at Caen. A few years later be sank into imbeeility, and died in the asylum of Bon Sau-

veur, Caen. Brummen, in the Netherlands. A th. near Zutphen. The Dutch state rallway here crosses the R. Yssel. Villas of wealthy Dutch merchants.

Brumoy, Pierre (1688-1742), French poct and writer, born at Rouen; educated by the Jesuits. He wrote a number of poems, but secured sion of it.

Théâtre des Grecs, published in 1730. This work consists of prose translations into the French tongue of the Greek dramatists, and contains B.'s notes and

Brun, Vigée le. Sce LEBRUN. Brun, Charles le, or Lebrun (1619-

the Czar,
L'Ecole mental in the foundation of the
to Russia,
the court,
rising in reputation he became court
painter to Louis XIV. and the leader
led extenled extenled extenled court of the French arts, over which he ohtained great control for many years. He was the first director of the Gobelins tapestry manufactory, and did a great deal of work at the palace at Versailles, but gradually grew out of favour with the king, and was ulti-mately superseded by Mignard. Examples of his work are to be found in nearly all the principal galleries.

Brun, Rudolf, a Swiss magistrate, born in 1360. He headed an insurrec-tion in his native tn. of Zurich, had himself proclaimed dietator, and prevailed upon the people to establish a new constitution. These events led to his becoming the first burgomaster of Zurich. After a long struggle with the deposed magistrates the emperor Louis of Bavaria persuaded him to receive a pension and a sum of money in exchange for which he made peace.

Brunamonti, Marie Alinda, nee Bonacci, a contemporary It. poetess. Among her writings are: Beatrice Portinari e l'idealità della donna nei canti d'amore in Italia, 1891; Dis-corsi d'Arte; Nuovi Canti; Quando in Urbino la contessina Bice Castrav cane dà la mano di sposa al Conte G.

is the name of a place, ich is not now known. ive been Brunswark, or He attained notoricty for Birrenswark, in Dumfriesshire. It is in dress, though that, while also located in Lincoln, Yorkshire, and precise, was never example Lancashire. The place is celebrated as having been the spot where Atbelstan and Eadmund his brother won a great victory in 937 over the Eng. Dancs, joined by Anlaf of Denmark and Constantine of Scotland. As the invaders entered the country by the Humber and marched southward, the battle is most likely to have been fought in Lincolnshire. After Athelstan had defeated the Danes and their allies at B., be annexed Northumbria, and thus became the first monarch of England to reign with undisputed authority. stirring ballad was composed in commemoration of the victory, and is at found in the Anglo-Saxon Chronicle. Lord Tennyson has given a fine ver-

Paris. As military commissary he participated in the Seven Years' War. He recommenced his studies at the age of thirty. He ed. many editions of the Greek classics with a freedom that alarmed the canons of editions then in vogue. He boldly altered the text, where a change would mean simplification, without any authority from the MSS. He took part in the Revolution, was imprisoned at Be-sancon, and died after the sale of his books caused by the suspension of his income.

Brundusium, see BRINDISL Guillaume Anne Brune, Marie at Brives-la-Gaillarde, Corrèze. He commenced studying for law in Paris, and later became a journalist. begun here and also his alliance with the Jacobins. He shared the military exploits of the 13th Vendémiaire as a brigadier-general. He served erected by him in 1841-5, had been under Napoleon in 1796, and two superseded by the Charing Cross raily years later commanded the Fr. army way bridge in 1862. From 1833 to in Switzerland. Against the Anglo. 1846 he was the chief engineer of the Russian attack on Amsterdam he won Great Western Deliver and Saliston adoption of the innerial title he was struction. adoption of the imperial title he was struction appointed marshal in 1804. The his work Hundred Days again found him en-gaged in service after a period of inaction. His death was caused by the

Royalists, who murdered him in Aug. Brunehaut (c. 532-613), see Brun-HILDA (2). Brunei, a Mohammedan state in

Borneo, under the administration, has lost most of its ter. owing to the an Hon. D.C.L. of Oxford, frequent cession of land to the British | Brunel, Sir Marc Isamb frequent cession of land to the British N.W. Borneo Company and to Sarawak. The sultan at present receives born at Hacqueville in Normandy, a pension from the British, and his born at Hacqueville in Normandy, a pension from the British, and his two chief ministers do so likewise. The cap. of the state, and the only city with the slightest claims to importance, is the city of B., which has, a pop. of roughly 15,000. The internal population of the latter of th

Brunck, Richard François Philippe and the women are particularly clever (1729-1803), French classical scholar, at weaving gold embroidered cloth. He was torn at Strassburg, and The exports and imports are in-educated at the Jesuit's College, finitesimal. The state has an interesting and somewhat varied history, but its chief importance now lies in the fact that it is abundantly supplied with coal seams which are leased to the government of Sarawak-

Brunel, Isambard Kingdom (1806-59), son of the equally famous cn-gineer, Sir M. L. B., was born at Ports month. At a very early age he showed the possession of those qualities which are essential to a good engineer and draughtsman, and he was sent at the age of fourteen to the school of Henri Quatre in Paris to study. Three years later he entered his father's office, and in 1831 his plans for the Clifton Sus-(1763-1815). French marshal, born pension Bridge were adopted, and he was put in charge of the work. The bridge, however, was not completed until after his death, owing to lack of His friendship with Danton was funds but his plans were strictly ad-begun here and also his alliance with

also constructed the first steamboat which made regular voyages between America and this country; this was the Great Western, which he constructed for the railway company of that name. He was also the designer of the Great Britain; his greatest Bornco, under the administration, achievement was the construction of since 1906, of a British resident; since the Great Eastern, but he only lived 1888 it has been under British protection of the state of the British protection of the size and dignity, it has during the last creat amount of ternical state of importance. It is now a case the great voyages. The Great Eastern century lost a great amount of ternical state of importance. It is now a case to state of importance. It is now a case of the great a state of importance. It is now a case of a state of importance, with frontiers in the way and occan steam navigation work N.W. of Borneo, with frontiers in the also helped in the construction of sarawak, and with a strip of coast line ronghy about \$0 m. long. It has a narea of about 17,000 sq. m., and a pop. of not more than 30,000. It he was made a fellow of the R.S., and has lost most of its ter. owing to the achievement was the construction of

Brunel, Sir Marc Isambard (1769-

engineer. He hecame chief engineer cism—caused an immense sensation for New York, and erected a new throughout France The first hint of arsenal for the city, fitting it with this change was given in a speech at some ingenious machinery for horing: Besangon in 1894, and B. made his of his own invention. He sailed for famous declaration of faith in 1899. advised the gov. to adopt steam tngs for taking warships out to sea, but in 1914, after some actual experiments, the gov. refused to adopt the idea. In 1821 he became a hankrupt owing to his financial mismanagement and also owing to the fire which destroyed his sawmills at Battersea. His chief claim to fame and he has many-

Brunelleschi, Filippo (1379-1446), pays a fine tribute to George Eliot. an Italian architect, born at Florence.

To him a revival of the Roman the style is to be attributed. His natural by:

aptitude for mechanism altered his Gun father's intention of arranging for him. Siet to follow the profession of notary, and pashe was accordingly apprenticed to a har goldsmith, where he quickly mastered North all that was to he learnt. In 1841 he daughter of Odin, who, having dis-

England in 1799, and suhmitted some: after a private interview with the plans for making ships' blocks, which pope. His article, La science et la were ultimately accepted by the gov. Religion, in the Revue des Deux His machinery saved the gov. a con-Mondes, roused against him the siderable amount of money in the first wrath of almost the whole of intelyear's working, and he was appointed lectual France, and caused a sensation to carry ont many other plans for the which did not die down for years. In gov. at various dockyards. He made it B. proclaimed 'La banqueroute de experiments in steam navigation, and la science; he insinuated that cience advised the gov. to adopt steam that had failed to keep certain of her promises, and maintained that Christianity was still, and must be, a force to be reckoned with. To refute some upjust criticisms he wrote another article in honour of science. But for ten years onwards he made speeches and puh. writings (such as Le Besoin de Croire, and Le Molif d'espèrer) to claim to fame—and he has many— de Croire, and Le Molif d'espèrer) to is the part which he played in the defend his new faith. Among B's construction of the tunnel under the most important works are: L'Evoluthames. The start was made in 1825; tion des Genres dans l'Histoire de la the riv. broke through the roof twice, Lillérature, Eludes Critiques sur once in 1827 and again in 1828. The l'Histoire de la Lillérature Française, work was discontinued in the latter Essais sur la Lillérature Contempear, and was not again taken up until poraine, L'Evolution de la Poésie 1835, the tunnel heing finally opened in 1843. Together with his son, I. K. Le Boman Naturaliste, and in 1843. Together with his son, I. K. Le Boman Naturaliste. In this last Brunel, he made many experiments. work he wages war against the French In 1841 he had heen knighted, and in naturalist writers, especially those of 1829 had received the Order of the the school of Zola; he is sympathetic Legion of Honour.

Brunelleschi. Filippo (1379-1446). pays a fine tribute to George Eliot.

goldsmith, where he quickly mastered Nor. ... daughter of Odin, who, having disentered a competition for designing the gates of the San Giovanni baptistry. He won merit, though not award. He later applied the laws of fire. Here she must remain until a perspective to his works, and obtained there outside the contract to complete the church of Santa Maria del Fiore, in Florence, which is his greatest masterpiece, while not far behind in greatness of achievement is the Pitti palace in the same town. He died in Florence, April 16.

Brunetière, Ferdinand (1849-1906), Fr. author and critic. He was educated at the Lycée Louis le Grand, styred in the Franco-Ger. War, then led for some years a precarious life as a teacher. He began to write for the Revue des Deux Mondes in 1875, and became its editor in 1893. From 1836 to 1893 he was professor of the Fr. language at the Ecole Normale; during this time, too, he lectured with great brilliance, chiefly on Fr. literature. An event in B.'s life—his conversion from materialism to Catholi-

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Bruniaceæ is an order of dicotyle-paper, tobacco, hardware, and sngar. donous plants which are natives of There are engineering factories, oil

youth, he did much to advance Greek kept for eight years. There is an learning in his own country, particularly by literal translations into Latin of the works of Demosthenes, Joseph II., and there are many Plutareh, Aristotie, and Plato. His smaller parks, and public gardens. Historiarum Florentinarum Libri The educational institutions are very XII..., published in 1610, was good; there are technical, continuather result of long and thorough tion, elementary, and kindergarten historical research, and was the means of securing to him the rights echois. The pop. consists of Germans means of securing to him the rights and Coeks, and the religion is principle of eitizenship. He also wrote original pally Roman Catholicism, with about 7.5 per cent. Jews and 1.5 per cent. Jews and 1.5 per cent. Protestants. Pop. 110,000.

Brunne, Robert of, see Mannyng, Robert of, see Mannyng, Robert. many others: Epistolæ Familiares, Brunn 1472; and Commentarius Rerum suo ROBERT. Tempore Gestarum, 1476.

point. In 1889 a rallway was opened up.

of the dikes in Holland, and in this capacity carried out several important improvements. He is best known by an instrument, bearing his own name, which he invented, and which enables the rapidity of stream to be gauged.

manufs., which fact has earned for it | Monumenta Germaniæ historica.
the name of the 'Austrian Man-

S. Africa, and rarely occur in Europe. works, hreweries, flour mills, etc.
The species consist of heath-like There is good railway communication shrubs, which are ahundant at the between B., Vienna, and other im-Cape of Good Hope. The flowers are portant cities, five lines touching the hermaphrodite, arranged in whorls of the hermaphrodite, arranged in whorls of the city was once five, with either two or three united strongly fortified, and it stoutly held carpels containing several ovulcs, or out against sev. sieges. It was chosen with a single carpel containing one by Napolcon as his headquarters ovule. The fruit is a capsule or a nut. before and after the battle of Auster-Power Learners (1282). Bruni, Leonardo (1369-1444), a litz. All the fortifications have now celebrated Italian writer, horn at heen converted into beautiful prome-Arezzo, from which place he obtained nades. Many suburbs have of late the name of Leonardo Aretino by years grown up around the old part, which he is generally known. In 1405 and there are numerous fine build-he obtained the appointment of ings, which include a cathedral and papal secretary, and held the position sev. churches, a theological college, a papal secretary, and held the position is set, churches, a theological college, a for ten years under four consecutive gymnasium, an orphanage, theatre, popes. He retired to Florence where gymnasium, and many hospitals, he obtained the influence of the Medicean family, and through them Moravia and Silesia. Behind the city, the state chancellorship in 1427, on the hills, is the old castle of Spielwhich he held until his death. Drawn hers, which is famous for having been to the study of the classics in his the prison where Silvio Pellico was youth, he did much to advance Greek: kept for eight years. There is an learning in his own country, partitioners park known as the prison where Augusten.

empore Gestarum, 1476.

Brunnen is a lake port, and a Bruni Island is situated off the S.E. | heautiful vil. of Sehwyz, Switzerland. of Tasmania. It is 32 m. long, from It is situated near the mouth of the 1½ to 10 m. broad, and has an area of Muotta, on the Lake of Lucerne, 160 sq. m. Coal mining is the chief about 6 m. S.E. from Lucerne. It was industry.

Brunig Pass is a pass over the Swiss renewed their league.

Alps. joining Meiringen and Lucerne. Brunner, Heinrich (b. 1840), a Ger. It is about 3400 ft. at its highest juris-consult and historian, born at ont. In 1889 a rallway was opened up. Wels. He studied at Vienna, Göttin-Brunings, Christian (1736-1805), a gen, and Berlin, taught Ger. law at celebrated hydraulic engineer, born at | Vienna, was appointed professor at Neckerau, who was given the control the university of Lemberg in 1866, of the dikes in Holland, and in this at Prague in 1870, and afterwards at Strasburg. In 1872 he became professor of Ger. civil, commercial, and maritime law at Berlin. B. has done most valuable research work in the a history of Fr. law, studying minutely the early laws and institutions of the peoples of Western Europe, especially Brunn, the cap. of Moravia be-peoples of Western Europe, especially naing to Austria. It is situated the Franks. He is the leading author the Franks. He is the leading author. between the Rs. Zwittawa and rity on modern Ger. law. His chief between the Rs. Zwittawa and rity on modern Ger. law. His chief between the foot of the Spiel-I works are: Die Entstehung der Senwarzawa, as the loot of the spier works are. Die Enistening der berg, It is 70 m. N.E. from Vienna, and 115 S.W. by W. from Prague by and the Fr. jury systems), Deutsche rail. It is the centre of commerce and Rechtsgeschichte, and contributions to

the name of the 'Austrian Man-chester.' Theehiefmanufs are woollen (1797-1875), a Russian diplomatist, cloth, silk and cotton fabrics, gloves, born at Dresden. After studying at

the university of Leipzig, he entered | Carthusians. A prominent ecclesiastic 1856 was present at the Congress of retiring to Darmstadt in 1874.

Bruno, Giordano (c. 1548-1600), an Italian philosopher, horn at Nola, in the kingdom of Naples. At an early! age he became a monk of the Dominican Order, but was obliged to run away from the convent on account of the beretical views he had expressed. Seeking refuge he fled to Geneva, where he remained for two years, but was again expelled by vigorous opposition by his attacks on the philosophy of Aristotle, and leaving Paris in 1583, under the protection of the French ambassador, he reached London, and became acquainted with Sir Philip Sidney. He also lectured at Oxford, but did not, however, stay long in England as ho nowever, stay long in England as ho was successful in securing a professorship at Wittenberg, from which in turn he was driven to Helmstadt, and from thonce to Frankfort. Returning to Italy in 1592, he proclaimed his opinions in Padua and Venice, and was arrested by the Inquisition, sent to Rome and tried for heresy. Being convicted and refusing to re-cant, he was imprisoned and ulti-mately burnt at the stake, exclaiming that his sentence would cause greater fear to his judges than to himself. His philosophy was in form pantheistic, including the Copernican astronomy and that soul or spirit can only exist in matter; that all creation is one life composed of many living members which in their ultimate spiritual and corporeal existence are eternal, and that the life animating the whole is God. His works have greatly influenced later philosophers, notably Descartes, Spinoza, Leibnitz, and in 1889 a statue was erected to him at the place of his execution in Rome. His writings are numerous and include Spaccio della Bestia Trionfante, Della Causa Principio ed Uno, and De l'Infinito Universo e Mondi; while among the books of reference may be given books of reference may be given, Giordano Bruno, J. L. McIntyre, 1903; Life of Giordano Bruno the Nolan, Miss Frith, 1887; and ordano Bruno, C. Bartholomèss, naval stores. It has steamship communication with New York and Savannah. Pop. 9750. 3. A city in Paris, 1846.

the diplomatic service in 1818. After of the 11th century. His ability and attending several congresses of importance, he was made ambassador the Church, and he was speedily adto London in 1840. He represented vanced. But having protested against Russia in Frankfort after the out the evil-doing of one of the archbreak of the Crimean War, and in bishops, he was forced to seek safety in flight. Later he was offered ecclesi-Paris. In 1858 he returned to London, astical preferment, but his appointment was opposed and be retired to a

> pur decimen it, and devoken minion to his order. He died in 1101. He was the author of some commentaries on the Psalms, and the Pauline Epistles.

Bruno the Great (c. 925-965), Archbishop of Cologne and later Count of Lorraine, was the third son of Henry reason of his scepticism, and after the Fowler. He was one of the most journeyings to a number of towns important men of his time, distinand universities, he secured a post guished for piety and learning. To as lecturer in Toulouse and, later, him are ascribed a commentary on Paris. While in Paris he attracted the Pentateuch and a volume of lives of the saints.

> Brunonia is a dicotyledonous plant which is sometimes placed in the order Goodeniaeeæ, and sometimes allotted an order to itself, the Bru-noniacem. The genus contains only one species, and that one a herb, with azure-blue flowers, which is found in

> Australia. Brunow, Ludwig, German sculptor, born 1843, in Lutheran, near Lübz in Mecklenberg-Schwerin. He was at first a carpenter, but going to Berlin in 1866, he found a patron in Fr. Eggers, with whose help he was trained as a sculptor at the Kunstakademic and Siemerings studio. In 1871 Eggers induced Count von Moltke to give him a sitting for a portrait-bust, and out of this came a commission for the Moltke monucommission for the Mother Houterment in 1873. In 1871 ho produced the group 'The Harbinger of Love and the Fulfilled Dream, a 'Pegasus,' and the reliefs 'Bride of Corinth' and 'Family Happiness.' After two journeys to Italy he was commissioned to execute colossal figures of Kaisers Friedrich I. and Friedrich Wilhelm

II. as well as many groups and busts.
Brunsbüttel, a Ger. port, coaling station, and barbour on the N. bank of the Elbe in Schleswig-Holstein; the western terminus of the Wilhelm Canal.

Wilhelm Cana.

Brunswick: 1. A tn. of co. Bourke in Victoria. Australia, 4 m. N. of Meibourne. It has iron foundries and saw-mills. Pop. 22,000. 2. The cap of Glynn co., Georgia, United States. It is situated on St. Simon Sound. and is an important port. Its exports are cotton, yellow pine lumber, and

such as linen, woollen, and hardware. the duchy is roughly 500,000. The town also contains many heautiful and useful hulldings, including, the ducal palace and a museum. The town propably dates back to the 9th century. It was an important town of the Hanseatie League, and attained to considerable wealth and prosperity. During the Reformation it favoured the doctrines of Luther, and took an active part in the social and religious wars of the period. It was also the

and lies between Prussia and Hanover until, in the 16th century, it was The second, a long irregular stretch of again united under Duke Julius, who land, divides Hanover. The third not only reunited it but added to it large portion is of irregular shape, also. In the 16th century an importand is surrounded almost entirely by any divided the declaration of the declaration Prussian ter. The remaining six divs. are mainly in Prussian ter. and are clustered round the boundaries of . . Hanover. The area of the whole is roughly 1420 sq. m. (Eng.). The general appearance of the duchy is hilly, but it also contains large tracts of level land which are of very great

Cumberland co., Maine, United States. 1 tained. The forests yield a good supply It is situated on the S. hank of the of timber, but the comparatively new R. Androscoggin, close to its month, industry, mining, is gradually turning 25 m. N.E. from Portland. It is a the country from an agric, to an inrailway terminus, and noted for the dustrial one. The chief centre of the Bowdoin College at which Longfellow mining dist, is the Hartz Mts. Coal. Bowdoin College at which Longiellow mining dist. Is for naire the course graduated. There are cotton and iron, lead, and copper are produced in paper mills. Pop. 6925. 4. Cap. of the duchy of B., situated in lat. 52° 16° alabaster, and salt. The manufs. of N., long, 10° 31′ E. It has a pop. of the town, one of the prin. of which is 136,423. The inhah, are chiefly Proheet sugar, become more and more invested to the print of the constitution. testant, hut there are a number of important every year. The constitu-Catholics and Jews. Up to the end tion is a limited monarchy with the of the 18th century the town was throne hereditary in the house of B. fortified, but the fortifications have Lünehurg. The legislature consists of now been levelled and laid out as one house of deputies comprising now been evered and land out to be in four of departure comparing promenades, thus enhancing con- forty-eight members. The bouse must siderably the heauty of the town. Its streets are narrow, and the whole town has a somewhat antiquated can withhold taxation. The army of appearance and is noted also for the grouns by convention a constituent number of old huildings, especially part of one of the army corps of houses, which it contains. It is very prussia. The duke is one of the pleturesque, and in many respects wealthiest princes of Europe. The many he compared with another old Hanseatic town of Germany, Lübeck there are a fair number of Roman there are a fair number of Roman Hanseatic town of Germany, Lüheck. there are a fair number of Roman It has developed important manufs., Catholics and of Jews. The pop. of

History .- In the 10th century the lands which now form the duchy of B. were in the possession of the family of Brunos, from whence the name B. is derived. They passed, in the 12th century, into the hands of a memher of the Well family, Henry the Prond, and from him to his son, Henry the lion When Henry fell under the die. Lion. When Henry fell under the displeasure of both empire and papacy, he was allowed to keep his B. lands, wars of the period. It was also the seen of a violent revolution in 1832, and in this way they passed into the and became municipally self-governhands of Otto, his grandson, who ing in 1834.

Brunswick, Duchy of, a duchy of the transmitted of the self-governhands of Otto, his grandson, who was made Duke of B. and Lünehung Brunswick, Duchy of, a duchy of the Frederick II. Between the 12th Northern Germany which forms an index west divided first into the dophies of three larger and two divided first into the dophies of many. It consists of three larger and six smaller pieces of ter. detached and surrounded by foreign ter. The prin. was continually a hone of contention div., containing B., is of oval form, and underwent number of dive.

mar, and became a state of the Ger. value. The duch vitself helongs almost empire in 1871. In 1884 the direct line value. The duchy itself helongs almost empire in 1871. In 1884 the direct line entirely to the basin of the R. Weser, of B. dukes failed, and the duchy and its climate, especially in the N., is should have passed to George Duke that of the rest of Northern Germany, of Cumherland, who had until just mild and dry. The land is particularly previous to that time been King of fertile, fully 50 per cent. of it heins provided the property of the land is good, and cereals, beets, hrought to hear, however, and a Prussand all kinds of garden produce are observed by the land is good, and cereals, beets, hrought to hear, however, and a Prusand all kinds of garden produce are observed by the land is good.

Duke John Albert of MecklenburgSchwerin was chosen as regent.

Brunswick, New, see New BrunsBrunswick, Friedrich
Brunswick, Friedrich
Wilhelm,
A caravan traffie from Smyrna and
Alcoppo to Constantinople passes
general. Being deposed of his duehy through B, adding further trade in
by the treaty of Tilsitt in 1807, he
spies, etc. Pop. 76,303.

Brusasorei, see Ricci, Domenico.
Brush, Charles Francis, an American electrician and inventor, born in
refusing to lay down his arms on tho 1849 and educated at Mileigan Unirefusing to lay down his arms on tho 1849 and educated at Mileligan Uniconclusion of peace, went with his troops to England and put himself at 'Brush' dynamo-electric machine the service of the British gov., in and the 'Series' are lamps, and has whose pay he fought in Portugal and patented more than fifty other invenspain. He was re-instated in his Electrical Company in Cleveland. Brushes, an instrument used for Brushes, an instrument used for removing dust or dirt from the sur-

Brunswick Black, corresponding to varnish used in the process of japan-

vernix tree.

Brunswick Green, a light green pigment. The term is applied to: (1) Oxyaction of sal ammoniac on copper poses, such as a carpet broom.

sician, born 1844, in Roxburghshire, Scotland. He was educated at Edindigitalis won him a scholarship and gold medal. He studied for three made of steel wire are nsed nowadays years at Vienna, Berlin, Amsterdam, for a variety of purposes, such, for and Vienna. In 1886 he was a per of a commission to report 60 to the variety of purposes, such, for a variety of purposes, such, for and view of a variety of purposes, such, for a vari physician at the same hospital. He has made a special study of the action)

in 1885. In 1906 the Prussian regent died; the claims of the Duke of Cumberland were again overlooked, and Duke John Albert of Mecklenburg-Schwerin was chosen as regent.

B. is especially noted for the manuf. of carpets, tapestry, silk fabrics, gauze, and satins, and the demand for these is considerable in eastern countries, though the people of Switzenstein was constant of the people of Switzenstein was constant of the manuf.

Brushes, an instrument used for removing dust or dirt from the sur-Japan-lacquer, a valuable hard black face of anything, and also for applying paint or some similar substance It is obtained from the Rhus to a surface. The instrument, when tree. is called a broom, a name which is equally applied to the instruments chloride of copper, prepared by the which are used for household purfillings, or by boiling copper sulphate name broom, however, is never with a small quantity of bleaching applied to the instruments used for powder; (2) carbonate of coppor; applying paint. The derivation of the (3) a mixture of Prussian bine, or word is not altogether certain, but it indigo, with chrome yellow, a small is probably derived from the French quantity of gypsum being added.

Brunton, Sir Thomas Lauder, phy-applies equally to the instrument sixing horn 1844 in Borburghshim already mentioned and to be underalready mentioned, and to the undergrowth of a wood. The materials burgh University, where he gradu-ated with honours; his thesis on consist of either the hair of various digitalis won him a scholarship and unimals or vegetable fibre. Bs.

has made a special study of the following and their application in disease. Principal works: A Text-holes the necessary quantity of the decessary quantity of the forecast fuff is s, hair, or fibre for each tuft is iken, and one end of them is into brushmakers' cement. re next tied round with string gain dipped into the cement, hen pushed with a peculiar ig motion into the hole in the In the case of drawn B., the is bored with the requisite number of holes, the tufts of bristle or

hairare drawn throughinto theirplace

hy means of thin wire. The hairs thus, are the church of St. Gudule, Notre pulled through are then trimmed to Jame des Victoires, and Notre Dame the length and shape required, after de la Chapelle. A number of these which the back is screwed on to the buildings contain very fine interior brush to conceal the wires, or the decorations. The Grand Place is one of the finest and most interesting of the from cheaper kinds of fibre-made B. are the interesting historical events which usually made by machinery; one of the best brush-making machines being beauty of the buildings which surpatented in America in 1870—the beauty of the buildings which surpatented in America in 1870—the beauty of the buildings which surpatented in America in 1870—the beauty of the buildings which surpatented in America in 1870—the beauty of the buildings which surpatented in America in 1870—the beauty of the buildings which surpatented in America in 1870—the beauty of the buildings the Hôtel de Ville and the description have been used frequently for the cleaning of the streets, and as amount of attention. The tn. is self-early as the end of the 17th century governing in municipal matters, and hy means of thin wire. The hairs thus, are the church of St. Gudule, Notre

brownish hlack in colour.

the hills which surround the valley. Its climate is healthy, but it is variable and usually humid. As the cap, it is the most important tn. in the kingjustice he said to be one of the finest cities of Europe. The new portion of the town is particularly beautiful, and the whole city may be said to he famous for the beauty and antiquity of its huildings. It is the centre of the prin. banks of the country and contains the mint. It forms also one of the most important centres of the damask, silk, and cotton goods. It is remarkable for the beauty of its the 19th century have made it one of law, sending General Horsford as the most modern tas. in Europe, and in many respects it bears favourable reserving liberty of action. The Concomparison with Paris. Amongst its gress opened in July, the Russian many grand huildings may be men-Baron Jomini being president. U.S.A tioned the king's palace, which occupies the site of the old palace, burnt were secret, and no important results down in 1731, and which has been followed (see report in London Gazette, much improved of late years. The Oct. 24, 1874). 1876 King Leopold

early as the end of the 17th century governing in municipal matters, and one of these machines was in use in is divided up into nine suburhs. The one of these machines was in use in is divided up into nine suburns. The London. The means by which in a pop, is increasing at a very rapid dynamo the current is conducted into a rotating armature is called a hrush, cent. in the course of the last fifty Brush Turkey, or Talegallus years. At the present time the pop. Latham. is a species of the family, is roughly 200,000. The history of the Megapodiidæ, or mound-hirds, found in Australia. The birds lay their eggs is mall the or ford during Rom. times, in mounds of sand, and the mature and is first mentioned by a name rebird is about the size of a turkey, the 10th century it is mentioned hy the 10th century it is mentioned by Brussels, the cap. of Belgium and the Emperor Otho, and in the course of the prov. of Brahant. It is situated of time it became the centre of the at the junction of sev. important gov. The dukes of Brabant for some canals and railways in lat. 50° 51' N. considerable time dwelt in it, huilding 4° 21' E. long. It is built partly in the their castle on the site of the present valley of the R. Senne and partly on royal palace. This palace afterwards the hills which surround the valley. became famous as the palace of the Netherlands, and witnessed the ahdication of the Emperor Charles V. the most important fn. in the king- During the war of the Protestant Sucdom, and is the centre of legislation, cession it was bomharded by the Fr. industry, and education. It contains general Villeroi, and great damage the royal seat, the chief courts, and was done to it, a number of churches the chamber of commerce. It can with and 4000 houses being destroyed by justice be said to be one of the finest red-bot shot. Also a number of in red-hot shot. Also a number of in-teresting buildings perished at this time. During the Fr. Revolution the republic was proclaimed here, and after the revolution of 1830 it hecame the capital of Belgium.

Brussels Conferences, a number of international conferences have been held in this city. In 1874 a society for industry of the country. Its lace is improving the condition of prisoners still considered to he the best in of war sont circulars to the great Furope, and it manufs. also linens, powers. Russia issued a programme powers. Russia issued a programme of seventy-one articles, embracing all the 'usages of war,' to be discussed at the conference. Great Britain deavenues and for the magnificence of the conference. Great Britain de-its squares or places. The changes of clined the discussion of international delegate without active powers and residence of William the Silent, i.e. summoned representatives (quite unthe palace used by that prince hefore official) of the great powers to decide in, is now on the best way of exploring and partly as opening up Africa to European trade buildings and civilisation. Result, creation of

the Congo Free State. In 1899-1900 divided into eight parishes. 2 A the anti-slavery conference met at market tn. of the same co. on the Brussels for the purpose of sup- R. Brue. Pop. 1849. pressing the slave-trade in Africa. See Wheaton's International Law, 1904.

ous lateral leaf-buds in the axils of the he produced 'Eve with Her Two leaves, each hud a kind of pigmy Children, in marble, which is now in cabbage. The sprouts are succulent, the Berlin National Gallery, and a

international conference on sugar hounties was held at Brussels in 1898, eleven years after a similar meeting in London. T

but a fresh . (Dec. 1901),

should be abolished in Sept. 1903, and the maximum of the surtax limited. This 'Brussels Convention' was signed March 1902 by representatives of the powers of Great Britain, Germany, Austria-Hungary, Italy, Sweden, and the Netherlands. They undertook to mahibit the importaundertook to prohibit the importa-tion of sugar from any country that refused to abolish the hounties, or else to impose countervailing duties. In 1903 the British parijament passed Its Sugar Convention Act to that effect. Some people consider that we pay more for our sugar in consequence of the non-importation of bounty-fed sugar, and that, while the West Indies may benefit, home consumers and the confectionery trades suffer considerably. Others hold that drought is the reason for increase in price; and that it is essential to do away with hounties at whatever cost, as they are unfair. It is hoped that the convention will in due course help to cause increase of production and to steady low prices. On Aug. 2, 1912, Sir Edward Grey gave notice of the in-tention of his Majesty's government to withdraw from this convention after Sept. 1, 1913.

Brut, or Brutus the Trojan, a hero Brut, or Brutal of British legend. According of Geoffrey of Monmouth, the hero who Geoffrey of Mritain. This story is also related by Wace and Layamon. B. is supposed to have been the grandson of the pions Æheas; he was banished from Italy, and after many adventures reached this island. He is supposed to have founded a new city of Troy, which was erected on the present site of London. His adventures in this is., then called Alhion, are given to us in long accounts of his

Brütt, Adolf, Ger. seulptor, horn 1855 at Husum. He received his training Brussels Sprouts, or Brussica gema at the Kunstakademie in Berlin. His milera, is a variety of B. oleracea, the first great work, 'Gerettet' (Saved), cabbage, a cruciferous plant. The won for him the small gold medal at main stem of the plant bears numer the Art Exhibition of 1887. In 1890 and are eaten as a vegetable, coming unde 'Sword-dancer' in bronze. In into season in the antumn.

1896 he completed an equestrian Brussels Sugar Convention. An statue of Kaiser Wilhelm I. in Kiel, and the hronze statue of Heinrich I .. and since then the Bismarck memorial in Altona, Friedrich Wilhelm II., an equestrian statue of Kaiser Friedrich III. in Breslan. Friedrich III. in marble before the Brandenburgergate in Berlin, and many other statues. A. B. is a professor and member of the Senatof the Academy of Arts in Berlin.

Brütt, Ferdinand, Ger. painter, born 1849 in Hamburg. He was at first a lithographer, but entered the School of Art in Weimar about 1870, where he studied genre-painting. In 1876 he went to Dusseldorf and hecame a professor in the Kunstakademie there. B. has made a special study of modern peasant life, of which many of his best peasant lie, of which many on in Suesa pletures are illustrations. Among his chief works are: 'The Peasant Delega-tion.' 'The Audience on the Prome-nade,' 'The Hour of Decision' (in the Munich Pinakotek), 'The Christian Vietor,' and 'Christmas Morning.'

Bruttium, or Bruttii, was an anct. kingdom forming a peninsula in the S.W. corner of Italy. It corresponded with the present provs. of Catanzaro and Reggio in Calabria. The dist. has always been of an extremely volcanie

eharaeter.

Brutus, Decimus Junius (84-43 B.C.), served first under Cæsar, in Gaul, who afterwards made him commander of his fleet. Later he was mader of master of the horse, and governor of Gaul, and Cæsar, who held him in much esteem, made him his heir, in the event of Octavian's death. But in spite of this, he was one of the conspirators in the plot against his henefactor, and was one of the first, with his relative Mareus, who helped in the assassination. Afterwards he fought against Anthony, and after having led the republican armies against him, and defeated him for some time, he was finally de-serted by his own soldiers, and fell into the hands of Anthony, who put him to death.

struggles with the race of giants who then lived here. These he is supposed to have eventually overcome.

Bruton:

Bruto

themselves the wealth of their relatives. Junius escaped with his life, which circumstance he owed to his apparent dullness of mind, but there is no doubt that this dullness was only assumed. He was known as the avenger of women's honour, on account of having expelled Sextus Tarquinius from Rome, for his outrage on Lucrctia, wife of Collatinus. In an attempt to restore Tarquinius to his throne, in a battle in which Junius and Aruns, son of the deposed king, were engaged, they killed one another.

hero of Shakes

character, Julius Cæsar cated by his mother, sister of Cato of Uttica, and by his French books, and it has been said uncles, his father having been put to that the work has greater merit death by the cruel order of Pompcy during the civil wars. During the early part of his manhood he prac-tised as an advocate. In 44 he was made a city prætor, and Cæsar promised him the governorship of Macedonia. He afterwards joined in a conspiracy against Casar, heing probably much influenced by his friend, Galus Cassius, and he was one of the foremost who took part in the assassination. Ho defended Macedonia against Anthony and Octavian, but at the hattle of Philippi he was defeated, and preferring death to capture, he fell upon his own sword. During his life he was an earnest student; his was a slow and rather obstinate character, lacking in sympathy, except, perhaps, with his women folk. He had, as it seems, a great power over the Romans. One of his greatest friends was Cicero, though at times they did not agree, aud Cicero remarks on his cold nature and his lack of enthusiasm. Some say he was an illegitimate son of Julius Cæsar, and this might account for his joining in the conspiracy against Cæsar, for appointing Octavian his heir. He wrote some philosophical treatises and some poetry, but nothing whatever of these has come down to us. His only extant writings consist of portions of his correspondence

Bruun, Christian Watther, a

Royal Library in Copenhagen, where Briancens, he classified and arranged the 70,000 Brya is a same than the contained in the Department. works contained in its Dan. section. He pub. Bibliotheca danica, 1872-86, and was one of the co-editors of the Danish collection of history, topography, biography, and history of when old.

dered by mombers of their own literature. He issued also Peder Paars. family, who wished to acquire for Through a Century, Establishment of Absolutism in Denmark and Origin of the Royal Law, The Danish Society for the Encouragement Danish Literature from 1827 to 1877, etc. Brüx, a tn. in Bohemia Austria,

on the Biela, noted for its mineral springs and for the manuf. of salts. Coal is found in the dist. Pop. 21,500.

Bruxelles, see BRUSSELS.

Bruyère, Jean de la (1644-96), a French writer of note, born at Dourdan in Normandy. Little is known of B.'s life except that at one time he held a public office at Caen, and, through the influence of Bossuet. Brutus, Marcus Junius (79-42 B.c.), obtained a position as tutor to the he great Condé, entering

in 1693. His Caracteres as one of the standard

that the work has greater merit than that of the Greek Theophrastus, whom B. imitated. See edition in Les Classiques Français.

Les Cassiques Français.
Bruyn, Brun, or Bruin, Cornelius (1652-1719), a Dutch painter and traveller, born at the Hague. He studied painting in Rome and Venice, and visited Asia Minor. Egypt, Russla, and Persia. From the drawings made during his travels he obtained sufficient data to publish two profusely cient data to publish two profusely illustrated volumes of his journeys, the principal value of which lies in the heauty of the plates.

Bry, c

engravo

up as a Frankfort, and it is supposed that his career as an engraver began rather late. He executed many fine etchings and engravings for various hooks, including a voluminous Collection of Travels in India. But he excelled Travels in India. But he excemen chiefly in processions; of these there are still in existence 'The Wise and Foolish Virgins,' a suite consisting of ten plates; 'The Muses,' in hine plates; a 'Dance of Peasants;' 'Dance of Lords and Ladles; 'Pride, Avarice, Folly, Prudence, and Charity' (grotesque personifications), etc. That B. lived for a time in London by attested lived for a time in London is attested by the existence of two extremely rare friezes executed by him there; these are a 'Procession of the Knights with Cicero, which have been proved of the Garter, a frieze consisting of beyond dispute to be his.

' B. signed his work his initials, some-

times with the anagram 'Torcumas

Brya is a genus of leguminous plants found in Central America and the W. Indies. B. Ebenus is noted for its wood, known as Jamaica chony or wood, known as Jamaica chony or which becomes black cocus-wood, which becomes black

scholar and educator, born in Ohio, secretary to Germany. He died 1865. He taught in the common and Cippenham, Windsor, on Nov. 14 high schools in Indiana, 1882-92; was prin. of Kokomo High School, 1893-4; professor of social and educational science, Butler College, 1896-7. was a graduate-student at Harvard and Clark Universities, 1898-1900. He became general superintendent of education in Philippine Is., 1903;

president of 9; since 1909 University. actical Teach-

ing, 1905; Fundamental Facts for the Teacher, 1911; The Longer Life.

Bryan, William Jennings, b. 1860, Amercian politician, born at Salem, Illinois; educated at Illinois College and Union College of Law, Chicago; practised law in Jacksonville, Illinois, till 1887, and later in Lincoln, Nebraska. In 1891 he became a member of congress, and rapidly gained a reputation as a speaker, particularly during the free trade debates. In 1893 and 1894 be made unsuccessful attempts to enter the senate. From 1894 to 1896 he ed. the Omaha World Herald, and took up the question of free silver both in this paper and in numerous public speeches. In 1896 he was nominated for president, as a result of a speech against the gold National Convention, but was defeated by McKinley. In 1898 he served as a colonel of volunteers in the Spanish-American War. He was again defeated by McKinley. In the McKinley in the McKinle again defeated by McKinley in the presidential election of 1900 and by Taft in 1908. He did not contest the 1912 election, but supported the successful Dr. Wilson. He has ed. The Commoner, founded by him in 1900, and pub. The First Battle, 1897, and The Old World and its Ways, 1907.

His Speeches were published in 1910. architecture
Bryan, William Lowe, American
author, born in Indiana, 1860. He grations, and al duated at Indiana University; was instructor of Gk. there, 1884-5; professor of philosopby, 1885-1902; president, 1902. B. married Charlotte Lowe, 1889, and has written with her 1876.

Plato, the Plato), 189 1898; The

of Habits. Since 1910 hc has been 1867.

antiquarian and mythological writer. found. He was a native of Plymouth, and 1877.

Bryan, Elmer Burritt, American Marlborough, and went as his private He died at Bryant, William Cullen (1794-1878),

American poet and journalist, born at Cummington, Mass., admitted to the bar in 1815; practised law in Plainfield, Mass., and later in Great Barrington. During this time be gained a reputation as a poet, and in 1821 dehvered The Ages as the Phi Beta Kappa poem at Harvard. In 1825 he removed to New York, and became editor of the New York Review, and in 1828 took up the editorship of the New York Evening Past, in which position be remained till his death. His journalistic work, mainly concerned with the anti-slavery move-ment, is marked by simplicity and vigour of style, together with common sense and breadth of view. He is best known, bowever, as a poet, and issued sev. vols. of collected poems. Among his most famous verses are: topsis. To a Waterfowl, The Death of the Flowers, My Country's Call. The Battlefield, and The Flood of Years. He also pub. Letters of a Traveller, 1850; Letters from Spain and Other Countries, 1859; Letters from the East, 1869; Orations and Addresses, 1873;

and metrical versions of the Iliad and the Odyssey, 1870-2. See Life and IVorks, ed. by Parke Godwin, 1883-4. Bryaxis is a genus of Coleoptera of the family Pselapbide. They are tiny beetles with very short elytra, which cover only half the abdomen, and they are found in moss occasionally,

but usually in ants' nests.

Bryce, David (1803-76), a Scottish architect, of Edinburgh. He designed many public offices in different styles. among them Fettes College, Edin-burgh Royal Infirmary, Bank of Bank of Scotland, the Sheriff Court, Lanark Infirmary, and many courches. was a specialist in the form of Gothic Scottish known as Among mansions, additions, and alterations by B. may be mentioned Panmure for Earl of Dalhousie; mausoleum for Duke of Hamilton; Kinnaird Castle for Earl of Southesk. Sec The Builder, May 27.

Bryce, George, Canadian clergyman and educator, born 1844 in Ontario. Graduated at university of Toronto. 1867. Ordained to Presbyterian Advancement of Teaching.'
Bryanites, see Methodska, Bryanit, Jacob (1715-1804), an Eng.
Winnipeg. 1872, and assisted in antiquarian and mythological writer. foundation of Manitoba University, 1871. He was a native of Plymouth, and 1877. Moderator of Presystrain was educated at Rochester, Eton, and Cambridge, where he obtained a president of Royal Society of Canada, 1902; Scholarship at King's College. He 1909-10. B.'s works include: The became a private tutor of the Duke of Apostle of Red River; Manitoba: In-

ford. In 1862 he pub. a monograph, and afterwards lived abroad until he The Holy Roman Empire, an enlarged died. form of his Arnold prize essay, which gained him an immediate reputation as a historical writer. In 1867 he native of Constantinople, bornin 1833, became a barrister at Lincoln's Inn, and in 1870 was appointed regius attending lectures at Berlin, Leipzig, professor of eivil law at Oxford. He and Munieh. He then taught in entered parliament in 1880 as Liberal Chalce and Constantinople for sev. member for the Tower Hamlets, and rapidly became prominent among the followers of Mr. Gladstone. In 1885 he etheffy in his discovery of the Epistles was returned for S. Aberdeen, and in of Clement and of the Didache.

1886 became Under-Secretary for Foreign Affairs under Lord Rosebery. Canadian inwestiget. dent of the Board of Trade, under Lord Rosebery's administration. the same year he served as chairman of the Royal Commission on Secondary Education, and was elected a fellow of the Royal Society. In 1895 he originated the scheme for the construction of light railways which was carried into law by his successor, Mr. Ritchie, after the defeat of the ministry in June of that year. In 1905 he was appointed Chief Secretary for Ireland, with a seat in the cabinet formed by Mr. Campbell-Bannerman, and in 1907 succeeded Sir Mortimer Durand as British ambas, to the United States, which position he resigned on November 11, 1912, being succeeded at Washington by Sir Cecil Spring-Rice. In 1902 he became a fellow of the British Academy. and chairman of its Historical and Archæological Committee. politician, he has been conspienous in his advocacy of Home Rule for Ireland, the abolition of university tests, international copyright, and: revision of the statute law, and he was largely instrumental in bringing

Centuries of Irish History, 1888; Transcaucasia and Ararat, 1896; Impressions of South Africa, 1897; Studies in History and Jurisprudence, 1901: Studies in Contemporary Biography, 1903.

fancy, Growth, and Present Condition, Brydges, Sir Samuel Egerton (1762-1882: Short History of the Canadian 1837), an antiquary, was born in People; Canada and the North-West; Kent. He was educated at Maidstone, Romantic Settlement of Lord Selkirk's Canterbury, and Cambridge. In 1787 Colonists, 1909: Mackenzie, Selkirk, he became a barrister, but five years and Simpsonin Makersof Canada, 1905. later he left his profession, preferring Bryce, Right Hon. James (b. 1838); a quiet eountry life in Kent. He was British statesman and writer; born in made an Eng. baronet in 1814. From Belfast: studied at Glasgow and Ox 1812 to 1818 he stood for Maidstone, food. In 1862 he pub a monograph, and afterwards lived abroad until he Brydges, Sir Samuel Egerton (1762-

During Mr. Gladstone's next ministry, in Scotland. Entered on a mercantile Mr. B. became Chancellor of the career till 1856, emigrated to Canada, Duehy of Lancaster, with a seat in 1857, first taking up farming, after-the cabinet, in 1892, and in 1894 suc- wards journalism. He became editor the cabinet, in 1892, and in 1894 suc- wards journalism. He became editor ceeded Mr. A. J. Mundella as Presi- of the Presbyterian, and associate editor of Montreal Daily Herald. B. was appointed historical archivist of Canada, 1872, holding office for thirtyone years. He issued a number of vols. with abstracts from the valuable manuscripts stored in the Canadian archives. These were brought out yearly, each being called Report on the Canadian Archives. See Dominion Archives from 1872.

Bryniolf, Bisbop (1605-75), an Icelandic divine, bishop of Skalholt, 1639-75. He made a most valuable collection of old Icelandie MSS. tbese he sent many by the traveller. Torfæus, to the king Thormod library at Copenhagen. A number of the remainder unfortunately perished . after his death. See Vigfusson and Powell, Corpus Poeticum Boreale, 1883.

Brynmawr, a market and mining tn. in Brecknockshire, S. Wales. It is 14 m. from Brecknock and is on the L. and N.W. Railway. Pop. 6910. Bryology (Gk. βρίσι, moss, λόγος

word) is that part of the science of botany which treats of mosses (q.r.). Bryonia is an Old-World genus of Cucurbitaceæ, which is represented in into law the City of London Paroehial Britain by B. dioica, the wild bryony Charities Act. 1883; The Gnardian of our hedges. The root was formerly ship of Infants Act. 1886; the Rail much used in rural pharmacy, and the Parts Act. 1880; the Rail the flowers are the sale source of food much used in rural pharmacy, and the flowers are the sole source of food

of the bees known as Andrena flores. Bryonin is an amorphous, bitter substance which can be extracted by 1888; boiling water from the root of Bry-; Im- onia dioica. It is a rellowish-white 1897; substance, sometimes tinted with red or brown. It is a drastie purgative. and poisonous in large doses.

Bryophyllum, a succulent genus of

eaves. B. cal-in British hotleaves.

houses, and B. proliferum is another BUBBLE.

common species.

Bryozoa is a term applied by Ehrenally referred to as the Polyzoa (q.v.).

Bryum, a genus of mosses, belongs to the order Bryinese and family Bryacce. The species are exceedingly numerous, and are found in great abundance in Great Britain. Sev. of theso are B. lacustre, B. pendulum, B. cuspidatum, and B. arclicum.

Brzezany, a tn. in Galicia, Austria, with maunts. of leather and linen.

Brzeziny, a tn. of Russian Poland, gov. of Piotrkow, over 60 m. from Warsaw. Has woollen manufs. Pop. about 8000.

Buache, Philippe (1700-73), was a Ic was a royal and the year a member of ces. He pub. Géographiques 1663.

ct Physiques sur les Nouvelles Découvertes de la Grande Mer. He also pub.

several atlases, etc.

Bubalis, the common name of the genus Bubalina, a section of the family Their real homo of true antelopes. ls in Africa, but one or two species are found in Asla. Among the chief representatives of the B. are the hartebeeste of southern Africa, the bontebok of the southern Interior, the sassaby of Cape Colony, the bubalino of the northern deserts, the bleshok, and the gnu, or wildbeeste. They are all large, rather ox-like, horned in both sexes, with long and more or less hairy talls, high withers, clonger of the with the sexes of the sexes of the wither sexes and the withers. gated heads, broad and naked suouts, tall, narrow upper molars, two teats, and they are more or less uniformly coloured. One of this group is supposed to be the B. of the ancients, often represented on Egyptian monuments.

Bubastis, the modern Tel Basta, was once the holy city of the Egyptian

non to S. Africa and then it lost its importance. The s remarkable for ruins of its temple were discovered s which occur on in 1887, together with many other antiquities.

Bubble, South Sea, see South SEA

Bubo, the swelling and inflammation of a lymphatic gland, particuberg to a phylum of animals, from larly of the groin, and usually assotheir moss-like appearance. Though ciated with gonorrhea or syphilis. still known by this name, they are usu- The chief varioties are: (1) Simple or sympathetic B., one eaused by friction or mechanical irritation: this includes what was formerly called primary B.. believed to be due to syphilis before the formation of a chancre; (2) syphilitic, that which appears in syphilis; (3) virul.

to tho e ha n**e**re sists of

of pus; the lymphatic gland overlying the parotid; (6) rhcumatic, a hard lump, usually on the back of the neck, fol-

lowing articular rheumatism.

Bubo is the Latin term for a genus of owls of the Strigide family. The species are characterised by a small earliap and two tufts or feathered horns on the head, while the legs are feathered to the toes. B. ignavus is the eagle owl common to Europo, Asia, and Africa.

Bucaramanga, a tn. of Colombia on R. Lebrija, superseded Socorro as eap, of dopt, of Santander. Centro of the coffee trade, has large mines of gold, copper, and iron close by. Wide streets, electric lighted. Hat and elgar factories. Railway projected to the Magdalena, 1907. Pop. over 20,000. Buccaneers. The name applied to

the bands of piratical adventurers, of various nationalities, who had their headquarters in the W. Indies during the 17th century. Their existence the 17th century. Their existence seems at first to have been an out-come of '

national

Drake, E early B. confined their operations to reprisals against Spain. In 1625 a band of Eng. and Fr. adventurers founded a settlement on St. Christopher, from which they made cattlehunting raids into San Domingo, dryanimal was the cat. She was supposed to hold the same place in the Egyptian Pantheon as Artemis or Diana. Bast was the wife of Ptah, and the mother of Nefer Atum. Her type is that of a goddess with a lion's head, and she was looked upon as the bringer of yes looked upon as the bringer of good luck. Later on the head of the lion was changed to that of a eat. The worship of the goddess was goddess Bast or Pasht, whose sacred ing the flesh and selling it to passing animal was the cat. She was supposed vessels. Their name of 'boueanier' were joined by kindred spirits from all parts of the world, and for many The worship of the goddess was all parts of the world, and for many chiefly at B., and at the time of years were a terror to Spanish ships Khoiak—near Christmas. The city and settlements on the neighbouring was taken by the Persians in 352 B.C., is. and mainland, the Spanish capture

of the stronghold in 1638 having no fleet fought them off Cartagena, and permanent effect. Their early leaders after the peace of Ryswick in 1701 included the Frenchman Montbars, they gradually deteriorated into cutknown as 'The Exterminator,' Olon-throat desperadoes, without the reknown as The Externmator, Oton throat desperadoes, without the renais, and Peter the Great of Dieppe, ideeming qualities of greatness. See thefamous Welshman, Henry Morgan, Dampier's Fongages, 1697; Burney's Michael de Busco, Bartolomeo de History of the Buccaneers of America, Portuguez, Mansvelt, and Van Horn. 1816: Esquemeling's Buccaneers of In 1654 they captured and sacked America, 1678 (Eng. trans. 1741 and New Seroyia in Honduras, and later 1853; and the books on the subject New Segovia, in Honduras, and later 1893); and the books on the subject plundered Maracaibo and Gibraltar, by Wafer, Ringrove, Sharp, Thornon the Gulf of Venezuela, and settled burg, Archenholz, Stockton, Capt. Providence, in the Bahamas. Their Johnson, Pyle, and Haring. Providence, in the Bahamas. Their footing was still more firmly estab. in 1655 by the capture of Jamaica by the British, who lent them a kind of indirect support as fellow-enemies of Spain. Operations from Jamaica were directed by Morgan, who seems to have possessed qualities of chivalry, valour, and brilliant generalship, as a set-off to his undoubted cruelty on many occasions. He was especially successful at the sack of Puerto Bello, hut seems to have become too strong to please the British, as in 1670 a treaty to suppress huccaneering was concluded between Great Britain and Morgan's answer to this, in Spain. 1671, was to cross to the mainland with a fleet of thirty-nine vessels, and after marching across the isthmus and fighting a pitched hattle, to sack and burn Panama with circumstances of great barbarity. He later made terms with the British gov., was knighted by Charles II., and became deputy. governor of Jamaica. In 1680 the B. erossed the isthmus of Darien, and, under the command of John Coxon, took Santa Maria and some Spanish vessels in the Bay of Panama. Then, while some returned to Jamaica, others, commanded by Sharp, Watling, and Hawkins, went through the wcalth. In 1683 six vessels of the B., under Van Horn, sacked Vera Cruz, while another section, under John Cook, went to Cape Horn, were joined by a vessel sent out from England under Eaton, and ranged the Pacific and Swan. In 1685 they returned to ford, in Edinburgh. His great-grand Panama, and were joined by two son, bearing the same name, other parties, a Fr. one under Grog- 1611, was warden of the Western niet and L'Escuyer, and an Eng. one Marches, and was raised to the peer-under Townley. This was the height age in 1606 as Lord Scott of B. He is met and Descaper, and an Edg. one Darches, and was raised to the peculiar moder Townley. This was the height age in 1606 as Lord Scott of B. He is of their power, for with wealth and celebrated for lus rescue of 'Kinmont security jealousies began to spring up, Willie' from Carlisle Castle, as well as and the Fr. and Eng. separated. In for his services in the Netherlands, 1688 an Eng. party returned from and in organising border bands for plundering Leon and Realcjo, in foreign service. The title of Earl of B. Nicaragua, and some of its members was bestowed upon a Walter Scott in joined a Fr. expedition against Carta-1619, who commanded a Netherland

Buccari, a port and royal free tn. of Croatia-Slavonia, in Hungary, situated on a small inlet of the Adriatic Sea.

Buccina is the term given to a

Roman military wind-instrument of the shrill horn or cornet kind. By some it is said to have been formed of the horn of a bull or goat, by others the shell of the buceinum.

Buccinator (Lat. 'a trumpeter'), the thin flat muscle of the check, forming the latend well of the mosth. It is

the lateral wall of the month. It is so called hecause that part is distended in blowing a trumpet. Its action is to retract the angle of the mouth, flatten the cheek, and hring

it into contact with the teeth.

Buccino, It. tn. in Campania. Has a castle, old walls, and Rom. bridge. Quarries of fine marble near. Pop. (1901) about 5000.

Buccinum, see WHELK. Buccleuch is a small glen in Schirkshire, Scotland, about 18 m. S.W. from Selkirk.

Buccleuch Family. An ancient and distinguished Scottish ducal house tracing its descent from Sir Richard le Scott (d. 1320), who was famous in the reign of Alexander III. of Seotland. The first of the family to receive the title of B. was Sir David Scott of S. Sea to Cape Horn, hy which route Branxholm, who sat in James III.'s tbey returned, laden with enormous Edinburgh parliament of 1487 as Dominus de B. The Sir Walter

for two years, commanded by Davis skirmish with Sir Walter Kerr of Cessjoined a Fr. expension against Carta- 1019, who commanded a rectaining gena. When the war between Eng- regiment against Spain. The first land and France broke out in 1689, Duke of B. was James, Duke of Monhowever, the alliance came to an end, mouth, the illegitimate son of Charles and the B. were harried by both II., who received the title in 1663 on countries. In 1697 an Eng. and Dntch his marriage to Anne, Countess of B. 1619, who commanded a Netherland

When he was beheaded in 1685 the versity Church, where he had been

social service to his tenantry by making numerous improvements on the Walter Francis, fifth duke, 1806-84, was noted for the creation of the deep-water harbour at Granton, near Edinburgh, was lord-lieutenant of Midlothian and Roxburghshire, and captain of the queen's bodyguard in Scotland. His son, William Henry Walter, the sixth and present duke. was born in 1831. See Fraser's Scotts of Buccleuch, 1878.

Bucentaur was a figure representing half a man, and half an ass or bull. It was probably used as a figure-head for a ship. It was also the name of the state ship in which the Doge of Venice sailed every year on Ascension day to the Adriatic Sea. He then performed the rite of dropping a ring into the water, wedding the sea in

the name of the republic

Bucephala, a tn. on the R. Hydaspes, N. India. It was built near the

grave of Bucephalus, who died in the Indian campaign of Alexander.

Bucephalus, the favourite horse of Alexander the Great. Alexander, when a young man, had proved to be the only one able to break in the charger, and therefore to fulfil the condition laid down by an oracle as the one necessary to win the crown of Macedon. B. died in 326 B.c., during Alexander's Indian campaign, and his master built the city of Bucephala

in memory of him. Bucer, Martin (1491-1551), Ger. Protestant reformer, born at Schlettstadt, Alsace. He was sent to Heidel- times, including a few ruined eastles, bers to study after an entrance into and the remains of the abbey of Deer. the Dominican Order in 1506. He met Erasmus and Luther here and ole attended a disquisition by the latter. bu He abandoned the Dominican body in 1521, and married a nun. He was excommunicated in 1523, and settled the S. German and Swissreformers, and culation; Handy Book of Meteorology; hence many charges of vagueness and Introductory Text-Book of Meteorlack of definite conviction have been ology, 1871. He wrote the article on levelled against him. He took part in meteorology for the 9th edition of the the 'Interim' between Catholies and Encyclopædia Britannica. Protestants, and after a severe strain

duchess retained the title in her own installed regius professor of divinity. right. She was succeeded in 1732 by Mary, however, had his body exhumed and burnt. Among his treatises is De Regno Christi.

Buch, an old dist. of France, is now included in the dept. of Gironde. has for its capital La Teste-de-Buch.

Buch, Leopold von (1774-1853), Ger. geologist, b. in Brandenburg: studied together with Alexander von Humboldt in the School of Mines at Frei-He spent almost his entire life travelling on foot throughout Europe in pursuit of geological facts, and was a member of numerous learned societies, besides holding an official position at the Prussian Court. His pnb. works are very numerous, and include the *Physical Description* of the Canary Islands, with two supplementary treatises, dealing with name of volcanic action and continental up-Doge of heaval, 1825; Travels Through Nor-scension way and Lapland; Geognostic Observa-He then lions on Travels through Germany ng a ring and Itoly, as well as a large number of memoirs in Ger. scientific journals. Both in the depts. of original thought and discovery he rendered great and discovery he rendered great services to all branches of geology Died at Berlin.

Buchan, a dist. in the Highiands of Scotland, lying partly in the N.E. of Aberdeenshire and partly in Banff-B. Ness is the most easterly point in Scotland, and is about 3 m. from Peterhead. The coast-line is from Peterhead. mostly high and rocky, and below the Ness, in the granite cliffs, there is a curious well, some 100 ft. deep, into which the sea rushes through an archway of natural formation. The tns. of P raserburgh ar

B. There of bygone

60, when he was appointed secretary to Scottish Meteorological Society. In 1878 B. became curator of library and museum of Royal Society of Edinat Strassburg, where, during his stay, museum of Royal Society of Edul-Henry VIII. sought counsel of him burgh. His works include contribuof Aragon. He aimed always at the reports, 1859 and 1895; on Atmonion of Lutherism with the views of spheric Circulation and Oceanic Circulation and Swisseformers, and hence many charges of various contributions. Handy Book of Meteorology.

Buchan, David, a British naval during the consequent polemics, was commander, and arctic explorer, was invited to England by Cranmer. Here le was received with favour by Edward VI. and Somerset. He died in Feb., two years after his arrival. and was buried at the Cambridge UniSpitzbergen with the Trent and Doro-

thea. A few years later he was lost at sea with the vessel Upton Castle
Buchan, Elspeth, Scottish religious enthusiast (1738-91), founder of sect known as 'Buchanites.' She claimed prophetic inspiration and divine divine he After separation from her White, 1783, and persuaded him to believe her the woman and himself the man-child of Revelations xii. The sect, always small, was hanished from Irvine, 1784, and settled near Dumfries. Burns spoke slightingly of them in a letter, 1784. They enjoyed community of wives and goods. The sect hecame extinct in 1848. See Train's Buchanites from First to Last, 1846.

Buchan, Peter (1790-1854), collector of Scottish ballads, was born at Peterhead. He tanght himself copper engraving, and learnt printing. then set up a printing press at Peter-He moved to London, but stayed only two years, afterwards returning to his native home. Prosperity favoured him, and he was able to buy property in Scotland. works are: Ancient Ballads and Songs of the North of Scotland, The Annals of Peterhead, etc. He died in London. Buchan, William (1729-1805), M.D.

and a medical writer, was horn in Scotland. He studied at Edinburgh, and settled for a time in Sheffield, returning then to Scotland. He later on Continent as in Britain.

Boddam Point. visible for many miles.

Cambridge, went to Bengal as chaplain ing this, he to the E. India Company. Later he the lords in was appointed elassical lecturer and 'In 1567, shortly after Mary's imvice provost to the college at Fort prisonment at Lochleven Castle, he William, newly founded by the Mar, was elected moderator of the General quis of Wellesley. In 1866, his unit Assembly. With Murray, who had versity conferred on him the distance of the property of D.P. in gratifulation for his College St. Assembly.

Buchanan, George (1506-82), Scottish historian and scholar, was brought up in humble eircumstances hy his mother, who was early left a widow. In 1520 his uncle sent him to the university of Paris. Five years later he graduated as B.A. from St. Andrew's University, and in 1528 obhusband she met the preacher, Hugh tained his M.A. degree at Paris. For the next three years he was regent or professor at the college of Ste. Barbe. Whilst in Paris, B. adopted the Protestant faitb, and his first poem, Somnium, which he pub. on his return to Scotland in 1537, was a bitter satire on the conduct of the Franciscan friars. James V. was so delighted with this attack on monastic life that he appointed B. tutor to one of his natural sons, and it was at his instigation that B. was induced to pub. his Franciscanus, which expressed the sentiments of Somnium in bolder and more violent language. It is not, therefore, surprising that in 1538, when the Lutherans were harshly persecuted, B., among others, was arrested. He managed, however, to make good his escape, and is next heard of as professor of Latin at the College of Guienne, Bordeaux—a appointment which he owed to the evertions of his staueh friend 4 adams. exertions of his staunch friend, Andrew Govea. Whilst here, he trans. Euri-pides' Medea and Alcestis, and wrote his two great tragedies Baptistes and Jepthes, which even yet have not ohtook up his quarters in London. He tained the recognition they deserve, became notorious, chiefly through the Driven from Bordeaux hy the plague, publication of his Domestic Medicine he was next professor for three years in 1769. About 80,000 copies were (154-7) at the College of Cardinal le sold in his lifetime, and his books were Moine, Paris. when, again through as much, or more, appreciated on the Govea's influence, he was appointed lecturer at the University of Coimbra, Buchan Ness, most easterly cape of in Portugal. On Govea's death, he Scotland (Aberdeen), sometimes called was immediately exposed to most Has a lighthouse tiresome persecutions. His imprison-Near by are ment in a monastery, as the result of the Bullers of B., a group of strange his examination before the Inquisiness and caverns.

Buchanan, or Buchanan, Scottish in the tis induced buchanan, or Buchanan, Scottish in the begin his famous Lat. paraparish in Stirlingshire, E. of Loch phrase of the Psalms. After holding Lomond (over \$1,000 ac.), a few miles a chair in the College of Boncourt, from Drymen Station. Little cultiva- 1553-5, he was for five years tutor to tion. mostly mountainous dist. B. the son of the celebrated Maréchal de Castle belongs to Duke of Montrose. Brisac. On his return to Scotland, Pop. about 700.

Buchanan, Claudius, D.D. (1766, Ouepn Mary who estable his world!) Bucharan, Claudius, D.D. (1766- Queen Mary, who estab. his worldly 1815), professor and writer, after tak- prosperity by giving him the revenue ing his B.A. degree at Queens' College, of Crossraguel Abbay. Notwithstand.

tinetion of D.D. in gratitude for his college, St. Andrews, in 1566, he donation of rare manuscripts. Most attended the Conference of York, of his books dealt with the promotion of Christianity in Asia.

Elizabeth's commissioners. Detectio Maria Regna he stated in the strongest terms the lords' case against their oueen. In 1570 he was chosen as preceptor to the roung James VI. Though he implanted in his pupil a real passion for learning. he rather commanded his respect than won his affections. In 1578 hc resigned his position as keeper of the Privy Seal, and devoted the remaining years of his life to his History of Scotland. B. is, undoubtedly, the most distinguished British humanist of his day. Abroad, as at home, he was justly regarded as the most hrilliant of scholars, his gift for writing Lat. verse exciting especial admiration. His History is a valuable contribu-tion to literature. Particular interest attaches itself to his account of contemporary events. though which blassed, is nevertheless trustworthy. His tract De Jure Regni, wherein he boldly argues that sovereigns exist by the will, and for the good, of the people, had a great influence on 17th century statesmen. As a writer B. shows himself possessed of a poet's imagination, and a philosopher's power to think. Lives by Washington Irving and Hume Brown.

Buchanan, James (1791-1868), 15th president of the U.S.A., horn near Mercersburg, Pennsylvania; graduated at Dickinson College in 1809; called to the har in 1812. In 1814 and 1813 he was elected to the Pennsylvania legislature, and in 1820 became a memher of congress. In 1831 he was sent hy President Jackson as minister to Russia, where he concluded a commercial treaty securing privileges for the United States in the Black and Baltie Seas. After his return in 1833 he was elected to the senate, where he was a consistent supporter of Jackson and an advocate of the annexation of Texas. He left the senate in 1845 to become Secretary of State to President Polk, in which capacity he had to deal with the north-western houndary dispute with England. In 1853 he was sent by President Pierce as minister to Great Britain, where he was mainly engaged upon Central American affairs. 1856 he was elected president of the United States, in which office he supported the continuance of slavery, and was much influenced by the threats of secession of the Southern States. He was succeeded by Lincoln in 1860, and retired into private life. In 1866 he pub. a defence of certain

In his tist, born at Caverswell; educated in Glasgow; took up journalism in London together with David Gray. His first collection of poems, Undertones, appeared in 1860, and was followed in 1865 by Idylls and Legends of Inverburn, and in 1866 hy London Poems. These last, dealing with the life of the London poor, reach a very high level. His other poetical work includes The Book of Orm, 1870; Balder the Beautiful, 1877; The City of Dreams, 1888; and The Wandering Jew: a Christmas Carol, 1893. His verse exhibits considerable genius, but tends to become assertive and egoistic. His chief success in the drama was Sophia, an adaptation of Tom Jones, and Lady Clare and Joseph's Sweetheart were also well received. His novels had a also well received. His novels had a considerable reputation and include The Shadow of the Sword, 1876; God and the Man, 1881; The New Abelard, 1884; The Heir of Linne, 1888; Rachel Dene, 1894; and The New Rome, 1899. He also wrote The Land of Lorne, 1871; David Gray, 1868; and The Histid Liles 1882. Two performs The Hebrid Isles, 1882. Two reviews hy him, The Fleshly School of Poetry: D. G. Rossetti, 1871; and The Voice of the Hooligan, 1899, dealing with Kipling, roused much critical opposition. tion.

Bucharest, cap. eity of Roumania, on the R. Dimbovitza. It stands in a the R. Dimbovica. Itstands in a fertile but treeless plain, 265 ft. above the sea-level. The city was much improved during the latter part of the 19th century, and though the suburhs still contain many mean and narrow streets of an Oriental aspect, the central part is mainly modern, being well-paved, lighted with gas. many handsome and containing buildings, as well as sev. gardens and a famous public parade. The fortifications, constructed after plans by Brialmont during 1885-96, are very extensive, forming a circle over 40 m. in eircumference round the city with eighteen forts. B., which is the seat of the head of the Roumanian and Greek Orthodox Church, and also a Roman Catholic episcopal see, is noted for its numerous churches. Among the most famous are the Greek Cathedral, 1656, the Roman Cathedral, 1875-84, the Domnitza Balasa. St. Spiridon, and the Chapel of Stravropolos. The university was founded in 1864, and the Royal Palace, standing on the Calea Victorci, was rebuilt in 1883. In the same street are the National Theatre in 1860, and retired into private life. In 1866 he puh. a defence of certain of his actions, administratio Administratio (Rebellion. See 1115 Luje 115 Curtis (2 vols., 1883). Luje 115 Curtis (2 vols., 1883). Luje 115 Curtis (2 vols., 1883). The chief publicgardens are the Cismegiu and the Palaee of Rebellion. See 1115 Luje 115 Curtis (2 vols., 1883). Luje 115 C

Buck

exchange between Austria and the lae became deputy mayor of Paris, a quantities of textiles, grain, hides, and then president of that body. His metal, coal, timber, and cattle, pass through it. Its manufs., mainly in the completed Philosophic au point de vue hands of Gers. and Hungarians, are du Catholicisme et du Progrès, 1839-40; still small, but include flour, beer. Histoire de la Formation de la ironware. It is the centre of the de Politique et de Science Sociale, national reilway system. The climate 1866; and with Roux Lavergne, is continental, with great extremes. From the end of the 14th century till revolution Francaise (40 vols.), 1833-8. is continental, with great extremes. From the end of the 14th century till 1698 B. was the residence of the princes of Wallachia; in 1789 it was taken by Austria and beld for two years; and it suffered from plague in 1794 and 1812, from earthquake in 1802, and from fire in 1847. It became the cap. in 1859. Treaties were signed bere in 1812 between Turker and Rnssia, and in 1886 between Scrvia and Bulgaria. Pop. 300,000.

Bucber, Lothar, Ger. diplomat (1817-92), educated at Berlin University. In 1848 entered Prussian national assembly, becoming active leader of the extreme Democrats. In 1850 B. fled to England under political charges, acting there as correspondent for the National Zeitung, and publishing Der Parliamentarismus vie er ist. In 1860, on returning home, B, hecame Lassalle's literary executor. In 1864 be accepted a post in the Foreign Office from Bismarck, and heeame his private secretary. Made reporting councillor in Ministry for Foreign Affairs; Privy Councillor, 1876. Drew up the text of North German Confederation constitution, and took part in many diplomatie missions. Encouraged anti-British feeling in Germany. Wrote Bitver aus der Fremde, Kleine Schriften politischen Inhalts (1893). See Leben und Werke of Pas-

See Leven una viene di ras 1890-4: Busch, Bismarck: Secret Pages of his History, Buchez, Philippe Benjamin Joseph (1796-1865), Fr. philosopher, born at Matagne-la-Petite; began to practise as a physician in 1825. He was concerned in the organisation of the Fr. Carbonari Society, being strongly opposed to the Bourbon restoration. and was arrested on a charge of conspiracy. Shortly afterwards be joined the St. Simonian Society, and for some time was a collaborator on the Producteur, one of the journals of that organisation, as well as chief editor of the Journal des Progrès des Sciences et Institutions Médicales. In 1829 he left St. Simonism to found Neo-Catbolie sehool known Bnchezism, the doetrines of which be expounded in L'Européen, later called La Revue Nationale (1831-48). His philosophy is also described in

Heliado-Radulescu and Miebael the Introduction à la science de l'Histoire Brave. B. bas a large trade as an (1833). After the revolution of 1848 exchange between Austria and the he became deputy mayor of Paris, a Balkan Peninsula, and considerable member of the Constituent Assembly, quantities of textiles, grain, hides, and then president of that body. His

Buchholz, Ger. tn. of Saxony, near Bobemian frontier. Dates from 16th century, then a mining tn. now

centre of passementerie-industry.
Large hook-binding establishments,
manufs. of paper from wood-fibre.
Pop. (1900) over 8000.
Buchner, Friedrich Karl Christian
Ludwig (1824-99), Ger. physician and
philosopher, b. at Darmstadt; studied
of Giosen Strasshurz Würzburg. at Giessen, Strassburg, Würzburg, and Vienna. In 1852 he hecame a leeturer at Tühingen, but the controversy raised by his Kraft und Stoff (1855) made it necessary for him to resign and take up a private practice in Darmstadt. In this work. while affirming the permanence of matter and force, he asserted that hrain and mind are identical, denied the existence in nature of a ruling mind, and insisted on the finality of purely physical force. His later works, mainly in support of Darwin-ism, include Die Darwinsche Theorie isin, include Die Darwinsche Incorne (5th ed.). 1890; Der Mensch und seine Stellung in der Natur (1870, Eng. translation, 1872); Aus Natur und Wissenschaft, 1862-84 (2 vols.); Licht und Leben, 1881; Der Fori-schrift in Natur und Geschichte in Licht der Darwinschen Theorie, 1884; Fremdes und Eigenes aus dem en der Gegenwart, 1890; und Socialismus, 1894;

'er Wahrheit, 1899. Bucine, It. vil. in Arezzo, 25 m. from Florence. Pop. about 8000.

Buck: 1. The male of the goat, the bare, the rabbit, and of different kinds of deer, especially the fallow-deer. The male of the red deer is a stag or hart. 2. An 18th century term applied to a reekless and spirited young dandy.

Buck, Lafferto (1837-1900), American engineer, famons as a bnilder of bridges, of which be constructed a number in U.S.A. and S. America. His most important achievement was his rebuilding of the suspension bridge at Niagara Falls.

Buckau, a manfacturing tn. Saxony, Prussia, Incorporated with Magdeburg since 1887, on the Elhe; pop. 24,200.

Buck-bean, or Menyanthestrifoliata,

is a European species of Gentianaceee. I ment demanded the surrender of B. It is often called bog-bean.

Bückeburg, Ger. tn., cap. of principality of Sebaumburg-Lippe, on trib. of R. Weser, 30 m. from Hanover. Has an old eastle, residence of the prince. Pop. (1900) over 5500.

by: manufs. nets and cordage. Pop., with surrounding dist., about 8000.

staghounds at one time bred par-lis father's death, brought up with ticularly for the purpose of buck-hunting. A royal pack was kept, and a nobleman held the mastership. In fiscated, took part, with Cbarles II., 1901 the hunt and mastership were in the battle of Worcester, and made, abolished.

the chief tn. of the fishing dist. from Banff to Findhorn, and possesses a fine harbour, with an area of 9 acres, and good quays. The largest flects land here in the herring scason. Pop.

6610.

Buckingham, George Villiers, Duke of (1592-1628), was born at Brooksby, Leleestershire. In 1614 he was intro-duced at court, and, on the fall of Somerset, his good humonu and his inexhaustible fund of animal spirits at once raised him into high favour with King James. In 1618 he was created Marquis of B. Remuncrative offices and monopolies, gifts of rich lands and the dowry of his wife, the Earl of Rutland's daughter, made him one of the wealthiest peers in the kingdom. B. soon acquired a Vales, whom he persuaded to accompany him to Madrid in 1623. He fondly hoped that the projected marriage of Charles with the Infanta would bring with it the Palatinate as a marriage portion. His arrogance was largely responsible for the failure of the negotiations. It was B. who persuaded Charles to promise concessions to the English Catholics. without which Louis XIII. would not allow his master to marry the Princess Henrietta. Meanwhile he had been ereated duke and appointed lordwarden of the Cinque Ports. The attempts of B. and Charles to win over public opinion by capturing Spanish treasure ships at Cadiz were Spanish treasure ships at Caula nadabortive. In 1626 Charles dismissed his second parliament, as it had instituted an impeaclment of favourite before the House of Lords. In 1627 B., having raised a forced loan, commanded an expedition to La Roebelle, to help the Huguenots. As the expected reinforcements never have the head to be a bander by the second came, he had to abandon his siege in the isle of Rhé and return home in 1818-39. disgrace. On June 7, 1628, parlia-

who persuaded Charles not to sign the famous potition. To save his friend. tbc king prorogued parliament. Popular feeling ran high and lampoons against the duke were freely circulated. Finally, John Felton, a Buckhaven, a fishing-vil. of Scot-disappointed, ill-treated subaltern, land, in Fifeshire, on Firth of Forth. assassinated him at Portsmouth, On N.B. Railway. Coal-mines close where he was about to re-embark for La Rochelle.

Buckingham, George Villiers. Buckhound, a name applied to the second Duko of (1627-88), was, after like his master, a miraculous escape. Buckie, a fishing tn. on Moray In 1657 be married Lord Fairfax's Firth, in Banffshire, Scotland. It is daughter, and at the Restoration recovered his lands. In 1671 he killed the Earl of Shrewsbury in a duel, while the countess, his mistress, looked on, disguished as a page. Four times imprisoned in the Tower for ridiculous exploits of ambition, hc was largely responsible for Clarendon's downfall, joined the disreputable Cabal, and on its break up in 1673, became, with his charac-teristic versatility, the zealous friend of democracy. On the king's death, being entangled in pecuniary diffi-culties, he retired to Helmsley in Yorkshire, where he spent his days hunting. He died ignobly, but was buried in Westminster Abbey. Of his exceptional talent there can be no doubt: witness his Rehearsal, a

> and Achitophel. Buckingham, James Silk (1786-1855), traveller and miseellaneous writer, born near Falmouth, and early adopted a seafaring life, visiting the W. Indies and America. Later he turned to literature, and in 1818 founded the Calcutta Journal, which was suppressed by the E. India Company. From 1624-29 he conducted the Oriental Herald, and by means of this and his lectures paved the way for the abolition of the company. published several books of travel and an autobiography.

> witty travesty of the stilted style of

destitute of principle, and was one of the wildest roues of a court, the immorality of which is notorlous. There is a brilliant, satirical sketch of him as Zimri, in Dryden's Absalom

But he was

Dryden's tragedies.

Buckingham and Chandos, Richard Plantagenet Temple Nugent Brydges Chandos Grenville, second Duke of (1797-1861), only ebild of the first duke, known as Marquis of Chandos after 1822. Educated at Eton and Oxford. M.P. for Buckinghamshire, Introduced the tenant-atwill clause into Reform Bill of 1832.

on the Canadian Pacific Railway, 20 m. from Ottawa. Pop. about 3000.

of British India, parallel to E. coast, forming important means of communication hetween Madras and the

Godavari.

Buckinghamshire, a S. Midland co. Buckinghamshire, a S. Mudalu of England, hounded by Northamp: President of the Council. He wrote fonshire on the N., Oxfordshire on a number of poems, and, as well as an the W., Berkshire on the S., and hy Essay on Salire, an Essay on Poetry.

Buckland, Francis Trevelyan (1826nearly 90 per cent. of the land under cultivation. The Vale of Ayleshury, stretching across the centre, and lying between hills on each side, is noted for of the most valuable dists.in England.

extending county franchise to £50 for London, and it is estimated that (known as 'the Chandos Clause, 'only larger connected with a single name.) The larger considering the grievances and depressed state of agricultural six, 'hecoming known as 'the farmer's friend;' larger considering the grievances and depressed state of agricultural six, 'hecoming known as 'the farmer's friend;' larger considering the grievances and depressed state of agricultural six, 'hecoming known as 'the farmer's friend;' larger considering the grievances and decreasing. Turnips and swedes are chief green crops. Ahont 3530 ac. are orchards, and 32,000 ac. are regiment of yeomanry; held office funder peel, 1841, hnt opposed repeal are the Thames, on the S. the forests are chiefly beech-trees. The rivs. of B. cohefit when the same is the forest are the Thames, on the S. the forests are chiefly beech-trees. The rivs. of B. Colne and Thame, feeders of the Sourch of the Court and the G.W. Railway the southern part, and the G.W. Railway the southern part, while hranch lines cross the co. at various points. The junctions are Ayleshury, Princes Rishorongh, works are Agricultural Distress; is Bletchley, and Verney. The manufs. Same are sent the control of the Court and Cabinets of George III., B. is divided into eight hundreds, Newport, Buckingham, Ashendon, Cottesloe, Ayleshury, Burnham, Stoke, Court and Cabinets of George III., and Desboro'; the last three form the 18502. See Gent. Mag, Sept. 1861; the co. returns three methods that the control of the Court so the control of the Court and Cabinets of the Age, 1841. 1859-61. His Private Diary appeared; Chiltern Hundreds. Buckingham is 1862. Sec Gent. Mag., Sept. 1861; the co. tn., hut Aylesbury is the assize Francis's Orators of the Age., 1847.

Buckingham, the co. tn. of Bucks, is parliament. Pop. 197,500.

Buckinghamshire and Normandy, situated on the Ouse, which almost situated on the Ouse, which almost parliament. Pop. 197,500.

Buckinghamshire and Normandy, John Sheffield, Duke of (1649-1721), encloses it, and is crossed by three a son of the Earl of Mulgrave, he hridges. It is an ancient tn., being succeeded to the title in 1658, and mentioned as a horo' in the Domes contring the navy, was appointed to day Book. There is an Edward VI. the command of a ship, and shortly grammar school. The manufs, are afterwards, received a commission

day Book. There is an Edward VI.; the command of a smp, and should grammar school. The manufs are afterwards received a commission unimportant; lace-making is being in the army as colonel. During the revived. There are limestone quarries, reign of James II. he became lord corn mills, etc. and a trade in wool, chamherlain, and in the time of hops, etc. Pop. 3250.

William II. a cahinet councillor.

Buckingham, hanking tn. of Quehec By William he was made Marquis of buckingham, nanking in, of Quence By William he was made starquis of the Canadian Pacific Rallway, 20 Normandy, and in 1703, on the from Ottawa. Pop. about 3000. accession of Anne, he hecame Duke Buckingham Canal, salt-water canal of the country of Buckingham and British India, parallel to E. coast, Keeper of the Privy Seal. He was rming important means of com-obliged to resign office in 1705, but in

1710 returned to power as lord steward of the household, and in the

fordshire on the E. Its area is 743 | 30), an Eng. naturalist, horn at Christ sq. m. It is an agric. co., having Church. Oxford: educated at Winchester and Christ Church. In 1848 he went to London to study medicine, and was house-surgeon at St. George's Hospital in 1852-3. During this time its extremely fertile nature, and is one he made the observations recorded in of the most valuable dists. in engiand. In surnoscues of Naural Lissory 12 It affords rich pastures for sheep, vols., 1851-72). In 1856 he joined the cattle, and horses. The sheep are staff of the Field, and wrote numerous noted for their fine luxuriant fleeces, papers for it on fish, hirds, ctc., till The breeding and rearing of cows is 1865. In 1866 he founded Land and important, Herefords and Shorthorns Water, an original weekly journal. In being favourite stock. Pigs and dncks 1865 B. estab. a piecicultural exhibitare reared extensively on the dairy tion at Sonth Kensington Muscum, and farms to be sent to London markets this knowledge of and interest in this his Curiosities of Natural History (4 farms, to he sent to London markets. his knowledge of and interest in this Milk and cream cheeses are also made branch of natural history led to his

appointment as inspector of salmon that later developments in historical fisheries in 1867. popular writers on scientific subjects of his time, his works include: Logbook 1875; an ed. of Natural Histor 81; Notes

and Jottings from Animal Life, 1882. See Life by G. C. Bompas, 1885. Buckland, William (1784-1856), an Eng. geologist, dean of Westminster; born at Tiverton, Devon; educated at Winchester and Corpus Christi, Oxford. From 1808 to 1812 he travelled over the S.W. dists. of England studying geology at first hand, and in 1813 succeeded Dr. Kidd in the chair of mineralogy at Oxford, accepting in the same year the newly-founded readership in geology at that uni-yersity. His inaugural address, dealing with the relations between geology and religion, was pub. in 1820 under the title of *Vindicia Geologica*. He contributed several papers to the Geological Society of London and to various scientific journals, and hegan to organise the geological museum afterwards given to Oxford versity. In 1823 he pub. his Reliquia Diluviana, in 1829 described and named the recently discovered Pierodactylus macronyx, and in 1836 contributed a treatise to the Bridgewater Scries. In 1825 he had hecome rector of Stoke Charity, Hampshire, and in 1845 was nominated dean of Westminster. His intellect began to fall in 1850, and he remained mentally weak till his death.

Buckle, George Earle, horn nr. Bath. 1854; educated at Honiton Grammar School, Winchester College, and Oxford (M.A. 1879). Barrister at Lincoln's Inn, 1880, hnt never practised. B. joined the editorial staff of the Times, 1880, becoming editor

Chencry's death, 1884.

Buckle, Henry Thomas (1821-62), Eng. social historian, born at Lec; educated at home on account of ill-health. In 1838 he entered his father's business, where he remained till his father's death in 1840. After a year spent in travelling on the Continent he settled down to historical study in London, living with great simplicity and acquiring a large library. He was intro-duced by Hallam to the Society of Antiquaries and the Royal Literary Society, and gained the friendship of several eminent men. In 1857 there appeared the first vol. of his *History* of Civilisation, the scope of which, originally intended to include the whole of Europe, was restricted to England. The second vol. appeared in 1861, having been written with great difficulty owing to domestic troubles and illness. The work had an extraordinary contemporary reputation.

One of the most study have made clear the disadscientific subjects vantages under which B. laboured in having been deprived of a university education. He had, however, great literary power, and extensive know-ledge. He died at Damascus of typhus fever, contracted during a visit to the His Misceltaneous Works were ed. in 3 vols. in 1872, and his Life and Letters, by A. H. Huth (2 vols.), appeared in 1880.

Bucklersbury, a dist. of London, formerly spelt Bokerelesburi, named after the wealthy family of Bokerels, who lived there in 13th century. In Stow's time the street was given up to anothecaries and grocers. Shake-Quiney, Richard speare's friend, carried on business there. I (Merry Wives) says gallants like B. in simple time. Ben Falstaff smell Ben Jonson also refers to it, and Sir Thomas More lived there for a time. It runs between Walbrook and Queen Victoria Street and on to Cheapside.

Buckley, Arabella Fisher), Eng. naturalist, b. at Brighton, 1840; secretary to Sir Charles Lyell, 1864-75; lecturer on natural science Burton 1804-70; lecturer on landing science, 1876-83. Her works are popular and suitable for the young. They include: A Short History of Natural Science, 1876; The Furyland of Science; Winners in Life's Race, 1883; Life and Her Children; Moral Teachings of Science, 1891: Eyes and no Eyes. 1901.

Bucknall Steamship Lines, Ltd., a company formed in 1900 to take over and extend the British and Colonial Line (1892), estah. to take passengers and cargo hetween London and ports in S. and E. Africa. It also controls lines hetween New York and S. Africa, Australia, and New Zealand. Manchuria, and the Far East, and India; and between English ports and ports on the Red Sea and Persian Gulf via Marseilles. The company are steamship owners and brokers, owning about twenty-nine vessels (Buluwayo. Fort Salisbury, Johannesburg, 1895). London offices: 23 Lcadenhall Street, E.C., and 50-51 Lime Street, E.C.

Buckner, Simon Bolivar, American soldier and politician, b. in Kentucky, 1823. Hegraduated at West Point, and was assistant professor there, 1845-6. B. won distinction under Scott in Mexican war and was made captain. In 1848-50 he was assistant instructor of infantry tactics at West Point. He

Confederate army, taking part in the defence and surrender of Fort Donelson to Grant, 1862. Exchanged as a prisouer, he fought again, becoming major-general and lieutenant-general. Was pall-bearer at Grant's funeral, Bud

conneillor, censor, and Lumleian hark is cathartic. Both these species lecturer in the College of Physicians are natives of Britain. and Surgeons there. B. was a great authority on insanity, heing first medical superintendent of Devon Co. Asylum. 1844-62, and the lord chan-cellor's medical visitor of lunatics,

white B. It is wrong, therefore, to picture Prince Hal and Poins, who are referred to as 'rogues in B. suits,' in that stiff, wide meshed stuff of

made from sheep or deer skin.

Buckstone, John Baldwin (1892-79). dramatist, actor, and theatrical manager, horn at Hoxton; was destined for the sea, but refused, and after a short time in a solicitor's office, took Guezacz, an Austrian town in to theatrical pursuits. He joined a Galicia, on the Stripa, 47 m. N.E. company of strolling players, and from Stanislaw. rapidly attained a reputation as a low Bud is the term used to indicate an comedian, making the acquaintance of Edmund Kean. In 1823 he first appeared in London as Ramsay in The Fortunes of Nigel; in 1824 joined the Cohurg company, and in 1827 D. Terry's company at the Adelphi, appearing there in his own play, Lule the Labourer. His connection with the Haymarket began in 1833, and in 1853 he hecame manager there. His numerous plays were mainly success-

1885; governor of Kentucky, 1887-91. | B., with opposite leaves and thorny The National (gold) Democrats nomitivities, the herries have cathartic pronated B. as vice-president of the perties, and their juice is used in the States, 1890. Imanuf. of sap-green. R. Frangula, Bucknill, Sir John Charles (1817- the Alder B., has scattered leaves; 97), Eng. physician; studied medicine the wood produces a light charcoal at University College, and hecame used in making gunpowder, and the

Buckwheat, or Fagopyrum, is a genus of Polygonaces, closely allied to the rhuharh. It is greatly culti-vated in N. America for the flour cellor's medical visitor of lunatics, which is obtained from the seed. It is 1862-76. He was knighted 1894. B. also valued as food for cattle, and as originated The Journal of Medical a plant producing much honey it is Science and The Brain, heing editor useful in hee-keeping areas. The for some time. His works include: common B., or Fagopyrum esculenturs with the seed of the common B. or Fagopyrum esculenturs and Criminal Acts; The Psychology of Asia, but it has become naturalised Shakespeare; Noles on American as food for poultry. F. Tataricum, Asylums; Habitual Drunkenness and the Tartarian B., is a more hardy Insane Drunkards, 1878; Care of the Buckram was once a rich woven perennial B., is an once hardy plant, but the flour obtained from it Insane and their Legal Control, 1880. is not so good. F. cymosum is the Buckram was once a rich woven perennial B. of India, while F. concloth, considered especially suitable toltrulus, the blackbinc, or climbing for church vestiments. Thus the Bucolics (derived from the Gk. his cathedral with hanners of red and while B. It is wrong, therefore, to to he a synonym for pastoral poetry. which is obtained from the seed. It is

to he a synonym for pastoral poetry. A later Gk. writer, Theocritus, wrote which

in that stiff, wide meshed stun or linen or cotton which is commonly called B. to day. Its stiffness, due to size, renders it useful for lining helts, prohably to excite comparison hecollars, honnets, etc., and also for tween his poetry and that of his hookhinding. Like 'cunning' and 'famous rival. The framework of 'gossip,' the word has ohviously Milton's Lycidas is B., for the poet pictures himself and his friend as shenherds 'nursed upon the self-same Buckskin is a twilled cloth, made of shepherds' nursed upon the self-same wool, with the nap cropped off yery hill.' Ronsard gathered his cologues finely. The B. hrecehes are made of together under the title Les Rucothis material. It is also a soft leather liques, but otherwise the term has not heen used hy modern, as opposed to classical, poets. However, the adjective B. is frequently used to describe the character of such a work as Sidney's Arcadia.

Bud is the term used to indicate an undeveloped shoot. It is called a leaf-hud if it is about to develop into a branch hearing foliage-leaves, and a flower-hud if to hear a flower, which is really a modified shoot. If it appears at the apex of a stem it is said to he terminal, if in the axil of a fact it is a said to he terminal, if in the axil of a fact it is a said to he terminal. leaf it is axillary or lateral, and if from any other part it is adventitious. H sev. Bs. occur in the axil of a single leaf they are called accessory Bs. In ful owing to his knowledge of stage some cases Bs. remain undeveloped effect for a long time, when they are said to Buckthorn is the name given to the latent, or dormant, and these are of various species of Rhamnus, the great importance when frost has detypical genus of the order Rhamstroyed the early Bs. Winter-huds nacew. R. cathartica is the common are often prevented from dying by loss of moisture by such developments old eity walls. as the secretion of resin, as in the borse-chestnut, or a covering of hair,

as in the willow.

Budæus, or Budé, Guillaume (1467-1540), a Fr. elassical scholar, born at Paris; studied there and at Orleans. devoting himself especially to Gk. He was secretary to Louis XII., librarian to Francis I., and provost of the merchants of Paris, and was also sent on sev. missions to Rome. He was a devoted student, and his numerous learned works include De Asse, Annotation tations on the Pandects, and numerous Latin commentaries on the Greek tongue.

Budaörs, summer resort in Hungary, Pest-Pilis-Solt-Kis-Kun; pop.

(1900) about 6000.

Budapest, cap. city of the kingdom of Hungary, and the second city of the Austro-Hungarian empire, standing on the edge of the great Hungarian plain on both sides of the Danube. The two cities, Buda, on the r. b., and Pest or Pesth on the left, were united in 1873, and are joined by five bridges: a ebain bridge (1842-9) between the ers, the Queen

: Franz Josef Bridge, and a the older and

portant of the two parts, stands on and around two hills. On one stands the royal castle, erceted by Maria Theresa, and a fort-ress, rebuilt after being destroyed by the Hungarlans in 1849. The palace chapel of St. Sigismund contains the Hungarian regalia and the hand of St. Stephen. On the Blocksberg, on the S. of this hill, stands the old citadel, while on a lower mound to the N. is the Turkish mosque, built over the tomb of the saint Sheik Gul-Babas. Other prominent buildings are the palace of Archduke Joseph, the residence of the premier, and of the minister of national defence, all standing in the Georgsplatz, where is also a monument to General Hentzi, the 13th-century parish church of St. John, and the National Lunatie Asylum. Buda was originally the Rom. colony of Aquincum, and the cap. of Lower Pannonia. In the 13th cap. of Lower Pannona. In the Islands century it was the prosporous Ger. tn. of Old Buda, but was destroyed by the Mongols in 1241. It was rebuilt by Bela IV., and was the residence of the kings of Hungary till captured by the Turks in 1526. It was held by them from 1641 to 1686, when the Hansburgs recognicid it. It, was Hapsburgs reoccupied it. stormed by the Hungarians in 1849. Pesth, the more modern city, stands upon a sandy plain with fine quays along the Danube. The main streets radiate from the Belvaros, which is enclosed by boulevards replacing the

The most notable buildings are the Houses of Parliament and Palaces of Justice (1896), the Academy of Sciences (1862-4), containing valuable art collections and a fine library, the Bourse, and the Redonte buildings, all on the Franz Josef Quay; the National Museum (1850), Theatre, and University (1783), on Museum Street; the Industrial Art Museum, on Ulloi Street; the Royal Military Academy (1872), in the Orezy Gardens; and the Leopold Basilica (1851-68), on Andrassy Street, one of the most handsome thoroughfares in Europe. There are a parish church, a Gk. cburch, and a Jewish synagogue, and numerous parks, including one on Margaret Is. Pesth appears to have been populous in the 13th century, but was destroyed in the Turkish wars after 1541. In 1867 it became the eap, of the Hungarian kingdom. Both tns. have valuable baths and sulpbur springs, and the united cities form a large manufacturing centre for machinery, spirits, and tobacco, eutiery and metal-work, glass, etc. The most important industry is milling, the trade in grain and flour being enormous, and there is considerable commerce in cattle and swine, honey. wax, bacon and hides, timber, and coal. Pop. 835,000.

Budaun, a dist. and tn. in India, 140 m. N.W. from Lucknow. The dist. is level and fertile, and watered by the Ganges, Ramganga, Sot, and the Mabawa. Its area is 2005 sq. m. Rice, wheat, cotton, and sugar-cane are grown.

Budd, George (1808-82), an English physician, born in Devonshire. Third wrangier at Cambridge, 1831; continued medical studies in Paris and at Professor Middlesex Hospital. medicine in King's College, London, 1840. In 1837 B. won notice by an article on the stethoscope as an acoustic instrument (Medical Gazette). As physician to Dreadnought seamen's hospital-ship at Greenwich made researches with Busk on cholera and seurvy. 1867 B. gavo up practice and retired to Barnstaple through ill-health. Pub. Treatise on Diseases of the Liver, 1848; Treatise on Diseases of the Stomach, 1855. See Medical Gazette for his 'Guistonian Lectures,' 1843, and 'Cromian Lectures,' 1847. See also Medical Circular, 1852.

deneo of isee also Meancal Circular, 1852, held by held by physician, brother of George (q.v.), hen the Educated in London, Edinburgh, and It was Paris. M.D. Edinburgh, 1838; gold in 1849. medallist for essay on acute rheugh, stands to enarys study of the origin and transmission astrects of typhold fever. In 1842 settled at which is Bristol, becoming physiciant 8 Records Bristol, becoming physician to Royal Infirmarythere, 1847-62. B.zealously

him to give up practice. Chief work, Typhoid Feter, its Nature, Mode of Spreading, and Pretention, 1873. Others are: Malignant Cholera, 1849; Siberian Cattle Plague, 1865; Cholera and Disinfection: Scarlet Ferer and its Prevention, 1871. See Lancet. i., 1861 and 1867, manuscript letter from Professor Tyndall. Buddha and Buddhism. Buddhism

is a religion that derives its name from its founder, Buddha, or, more correctly, 'The Buddha,' which means 'The Awakened' or 'The Enlightened.' Despite the fact that Buddhism numbers among its adherents about one-third of humanity -over 500,000,000—the amount of exact information concerning the foundation of this remarkable faith is far from exhaustive. There appears, nothing himself. It was only aft. his death that councils were held

promoted Bristol water-works, and of Suddhodana, King of Kapilavastu, did much for the improvement of a kingdom situated near the houndary sanitation. In 1873 ill-health obliged of Oudh and Neval. His mother's of Oudh and Nepal. His mother's name was Maya, and according to some legends Enddha's was a virgin birth. The date of his birth has been approximately fixed at 620 B.C. Many are the stories told to show how in early life the young prince evinced that preoccupation with the suffering of all sentient beings which was to set him on his life's mission. viz. the search for the solution of the problem of pain. This preoccupation alarmed the king, for he feared his son would ahandon his high station as ruler. In the belief that ' love will cure these thin distempers, on the advice of his ministers the king married his son at an early are to Yasodhara, a beautiful princess. transfer of the thoughts ye cannot stay with hrazen chains A girl's hair lightly binds.') She bore him a son and they however, to be a general consensus lived together for twelve years (till of opinion among orientalists that Siddhartha was thirty) in a most Buddhism was originated in the N. luxurious and closely-guarded prison-of India in the 5th century E.c. by a palace. But the prince's mind still Hindu prince named Siddhartha, or, dwelt more and more on mortal filsas he is often called. Gautama. There the pain and vanity of existence from are those who doubt whether Gau, which even death offered no escape tama (or Buddha) was an actual for Buddha accepted as unquestion. historical person, as there are those ingly as his contemporaries the who question the historical existence Brahmanie doctrine of the cycle of of Christ, and it may be remarked lives). At last, breaking from his that, as in the case of Christianity, triple-guarded prison, leaving his the founder of Buddhism wrote loved wife and child, he hecame a nothing himself. It was only aff rears, corous

his death that councils were held
the adherents of the new faith
settle the canon of its sacred writings
of the Brahmans. But he was unand to fix its doctrine. These councils
convinced that the 'Path' was to be
numbered three, the first heinz held
hy his chief followers immediately
after the death of Bnddha. Schism
and secession led to the holding, a
century later, of a second council in
the Prince of Darkness, seeking by
order to uphold the doctrine against
the Prince of Darkness, seeking by
order to uphold the doctrine against
his quest. At last, after sitting under
244 n.c. that Asoka. King of Magadha a tree for weeks plunged in profound 244 B.C. that Asoka, King of Magadha a tree for weeks plunged in profound (now Behar), and at one and the same imeditation on the cause of things, time the Apostle Paul and Emperor Buddha emerged into that state of Constantine of Buddhism, summoned enlightenment in which he undera third council to more precisely fix stood the cause of suffering and, conthe canon. This was apparently not sequently, its cure. The tree under reduced to writing till about 150 which B. sat during his meditation years later, when the canon stood suh- is known to Buddhists as the Bodhistantially as it does now. The sacred druma ('the tree of intelligence'), writings are divided into three nation. The stood such that the control is the stood such that the same divided into three nations. writings are divided into three parts: The spot on which this tree stood is (1) For the laity; (2) for devotees, believed by the devont to be the i.e. monks. etc.: and (3) a meta-centre of the earth, and in the court-physical section. The principal texts yard of an ancient temple in Bengal are the Sanskrit version of Nepal and stands a pipal-tree which is claimed the hooks of the Carlon Buddhigts in to be the decrease of the Undbit. the hooks of the Ceylon Buddhists in to be the descendant of the Bodhithe hooks of the Ceylon Buddhists in to be the descendant of the bounter Pall language (see Pall). The druma (or, as it is sometimes called, story of the life of Buddha and a the Bo-tree). The original Bo-tree brief summary of his teaching is given was said by a Chinese traveller to be in delightful verse by Sir Edwin still standing 1200 years after the Arnold in his Light of Asia (Kegan death of Buddha. The solution of his Paul) and may be briefly outlined problem—the world's problem—here. Prince Siddhartha was the son having been vouchsafed, Buddha spent the last forty years of his life in | following the 'Eightfold Path.' These preaching his new gospel. He re- are: Right Doetrine, Right Purpose, spread rapidly over the whole Indian peninsula, and in the 3rd century B.C. was carried to Ceylon. Thence it present day, aithough Buddhism is almost extinct in the country of its origin, it is the most widely spread religion of Asia. In India the other Nepalese nnd Himalayan tribes are Buddhists, and Buddhism flourishes in Ceylon. Burma and Siam are still Buddhist, the majority of the Chinese, many of the Japanese, the Mongolian peoples of Tibet and Central Asia, and even the Tartars of S.E. Russia are adherents of one form or another of this world-em-bracing faith. In briefly describing the doetrines of Buddhism It will he well to compare them with the tenets of Christianity. Only hy a thorough grasp of the fundamental difference of outlook of the two faiths will the westerner he abie to resoive so much that puzzles when he contemplates the East. For though it is easy to find certain superficial resemblances hetween Buddbism and Christianity, hoth in the lives of the founders of these two faiths and in their etbical teaching, yet the philosophy on which these two world systems are based is diametrically opposite. Both systems realise the inadequacy of mundane existence; both may not unfairly be termed pessimistle; hut the remedy of Christianity is 'life more abundant with the control of antly,' ntly,' while that of Buddhism, Nirvana,' or 'extinction.' Holding that existence on the whole is an evil, and that death offers no release from existence—for exearnation but Consult Burnouf's leads to renewed inearnation—the Buddhist ardently desires to escape

slips into the shining Sea.' man 'acquired merit,' in hi lives the sooner w At the basis of Snhlime Buddha, viz. (1

preaching his new gospel. He re-turned to his wife, who became one Right Discourse, Right Behnviour, of his first converts; converted Bim-hisara, King of Magadha (Behar); Lowliness, Right Rnpture; and hy and travelled widely in the N. of acquiring merit by these means the India. Buddha died at the age of Law of Karına (q.v.) ensured a more eighty at Kusinagara (Oudh), or, rapid release from 'life's fiful fever.' according to others, at an earlier age, All the foregoing may be summed up viz. about 543 B.C. The new faith in the word renunciation, i.e. freedom from attachment which alone causes existence. Attachment springs from desire, and desire from sensation, spread to Burma (5tb century A.D.) which in turn is the product of ideas. and Siam (7th century A.D.). Its ever So that existence is the product of zealous missionaries carried the tididas. Buddha taught that ideas lngs even further afield, and at the were mere illusions, and that If man will but free himself of his iliuded ideas-ideas for example, such as the attribution of reality to transitory and imaginary things—then attachment will eease and with it unhappiness. Perhaps the most marked feature of Buddhism is not its fatalism, which it sbares with other som, which it spares with other eastern faiths, hut the fact that the Law of Karma cannot be set aside by any Divine Being. Buddha was not concerned to dispute the existence of gods, but they, if they existed, were as much subject to the cycle of change as was man. Some Buddhist nations have no word in their language for 'God' in the sense of being an arbiter of the fate of man. sound somewhat startling to assert that one-third of mankind is atheist, and it cannot be denied that Buddha is to-day worshipped and prayed to by multitudes of his followers, but the truth is that Buddha himself never elaimed to he more than a man, and taught that a man's future was solely in his own keeping. This teaching has been well summed up by Mr. Bliss Carman, the American poet:

> The gods themselves and the almigitier fates Cannot avail to harm [eliance With outward and misfortunate The radiant unshaken mind of him

Who at his being's centre will abide,

Secure from doubt and fear. Introduction l'Histoire du Bouddhisme Indien; Rbys Davids' Buddhism; Sir Edwin from this cycle of lives, not by Arnold's Light of Asia; Fielding's Soul of a People and Inward Light.

Buddh-Gaya or Bodh-Gaya, n vil. of ., Bengal,

resorted to e been the The ruins

of Asoka's palace are here. is an operation in hortirformed for the reproduc-

(2) that it is brought about by attach-ment or desire; (3) that Nirvana alone varieties. It can be done in many can end pain; and (4) that the way, but the plants which are con-to Nirvana is only to be nttained by eerned in the operation must be

Buell 98

closely related botanically, e.g. roses in bnd upon roses, apples upon pears, apricots upon plums, or pears upon mediars. In shield-hudding a bnd from the wood of the present season's growth is cut from its parent in the months of July or Angust, when the bark searches the rock. bark separates freely from the wood. The operator then makes a cut in the shape of a T in the hark of the stock near the ground, slightly loosens the bark, raises it and places inside it the bnd. He then tightly hinds up the hark above and below the bud with about a foot of raffia until the bnd unites with the stock, when he re-moves the binding. If the operation is successful the tree which has been hndded is cut short above the new member in the following spring, in, order that all the strength from the root may be forced into the hnd.

sometimes the Scrophulariaceæ, but insane, and eventually he drowned different from plants of the latter himself in the Thames, order in possessing stipules. B. glo-Budgerigar, see Parracter. bosa, a native of Chili, is common in gardens; B. Americana is a native of Peru and the West Indies.

Buddon Ness, a Scottish cape on E. coast of Forfarshire with two light-

houses.

Bude is a seaside resort on the N.

rented the Bude light. Pop. 2308.

Budge, Ernest A. Wallis, an Eng. of the results of revenue and expenditure orientalist, studied at Cambridge, ending on March 31, showing what where he won distinction in the surplus or deficit there has heen comsensitie languages. He conducted expenditure for the Soudan, and in Mesopotamia, and was revenue and expenditure for the later appointed keeper of Exyptian lensing twelve months, a balance and Assyrian antiquities in the British being struck by the remission of old Museum. B. has been decorated with or the imposition of new taxes, with the order of the Star of Ethiopia. reference to the surplus or deficit on Among his many scholarly works may the past year. Deficits are also met be mentioned: Assyrian Texts, 1884; by loan, or by suspension of the Babylonian Life and History, 1884; Sinking Fund.

The Direllers on the Nile, 1885; The Budrio, a fortified coast in. of Italy, Bool: of the Bes: Memoir of Dr. some miles from Bologna; pop. of Birch, 1886; Catalonie of Egyptian com, about 17,000.

Budrum is a seaport of Assiatic. 1887; Coptic Mariardom of George of Turkey, situated on the Gulf of Kos. Analysis (Harrow School Missim). Businin is a scaport of Asiac 1887; Copile Marijrdom of George of Turkey, situated on the Gulf of Kos, Cappadocia, 1888; History of Alex96 m. 5. from Smyrna. It was built ander the Great. 1889; The Munmy, on the site of the anct. Halicarnassus. 1894; First Steps in Egyptian; The Pop. 6000.
Laughable Stories of Barthelmus; Budweis is a city of Bohemia. Bible Illustrations; Guide to the First Austria Stuated on the Moldau, 130 and Second Egyptian Rooms (British Mureum), 1898; Egyptian Ideas of the Future Life, 1899; Guide to the Third and Fourth Rooms (British Third that Fourth Hooms (DRILL) Sacrable trace in Sail, coal, import, Museum), 1905: Guide to Babylonian and wool. It is noted for its cathedral, and Assyrian Antiquilies in Brilish episcopal palace, and theological Museum (with King. 2nd ed. 1908); school. Pop., 39,910. Miracles of the Virgin Mary; The Buell. Don Carlos (1818-98), Ameri-Gods of Egypt: The Rosata Stone and can military officer, born in Ohio. Decree of Canopus; Hieratic Papyri Graduated at West Point, 1841:

Brilish Museum, 1911: Cook's Handbook for Egypt and the Sudan (3rd ed. 1911).

Budgell, Eustace (1685-1736), an English writer, born at St. Thomas near Exeter. He was educated at Oxford, and afterwards entered the Inner Temple, but neglected his studies for literature. He was a friend and relative of Addison, who procured for B. a clerkship in the Civil Service and afterwards an assistant-secretaryship. He contributed to the Specialor over the signature 'X,' to the Guardian, and with Addison and Speele to the Taller. B. published a lampoon directed against the Duke of Bolton and his secretary, E. Webster, in 1718, through which he lost his posiring, in tion. He was involved in the South rom the Sea Bubble, losing £20,000, and was load. 'enspected of forging Tindel's will by Adam which he was bequeathed £2000. Buddleia, named after Adam which he was bequeathed £2000. Buddle, is a genus of plants some Losing the consequent law case and timessaid to helong to the Loganiaceae, to thers, he is believed to have become

Budget, the account of the finances of a state, or, by analogy, of some smaller body, presented at a definite time by the responsible minister. Under the present procedure in Great Britain the Chancellor of the Exchequer presents his B. to the House coast of Cornwall. B. Castle was the of Commons during April. His state-residence of Mr. Gurney, who inment falls into two parts: an account vented the Bude light. Pop. 2363. of the results of revenue and expendi-

Budweis is a city of Bohemia. Austria, situated on the Moldau, 139 m. from Vienna. Its manuis, are stoneware, cloth, machinery, salt-petre, lead pencils, etc. It does con-siderable trade in salt, coal, timber,

Buckner's. B. took part with Grant in hattle of Shiloh, and defeated Confederate army at Perryville. Snperseded on account of charges brought gagainst him, he refused to hold further offices when offered to him. B. resigned his commission, 1864. He hecame president of Green River University, the Opera House and various gov. and municipal holidings mining enterprises. Pension agent at Louisville, 1885-3. See Statement of Major-General Buell, and Fry, Operations of the Army under Buell, 1884. Buen, a tn. of Spain, prov. of Pontevedra. Pop. about 7000.

Buenaventura. a free port on the

Buenaventura, a free port on the Bay of Choco, off the Pacific coast of Colombia, 200 m. W. by S. from Santa F6 de Bogota. Its climate is hot and unhealthy. Pop. 5000.

Buen Ayre, or Bonair, is a Dutch is. off the Venezuelan coast. Its pastures are rich. The exports are hides, horns,

bcef, and tallow. Pop. 4500.

1. The Buenos Ayres: largest prov. of the Argentine Republic, having a coast-line of 740 m. to the E. and S. on the Atlantic, from the month of the Plata to that of the Rio Negro, and bounded on the N. by the R. Parana and the provs. of Santa Fé and Cordona, and on the W. by the ter. of La Pampa and the prov. of Cordoba. It is for the most part a plain, well watered with rivers and lakes. Though many of these are uscless for navigation, they add greatly to the fertility of the country, while the Parana, with its estnary, the Plata, and the Rio Salado, are valuable navigable streams. The only hilly country occurs in the extreme S. of the prov. The climate is good. heing considerably tempered by the Atlantic breezes. The main drawback is the Pampero, a destructive hurricane which blows from the S. in the summer. The soil is very fertile, and cereals, tobacco, and fruit are grown, hnt cattle-grazing is still the leading industry. The affairs of the prov. are administered by a governor and vice-governor, and a congress, all completely independent of the central gov. The chief towns are the federal cap. B. A., the provincial cap. La Plata, Eusenada, and Bahia Blanca: Area, 117,807 sq. m. Pop. (excluding the city of B. A.) 1,392,208.

served in Seminole and Mexican wars, here almost 30 m. wide, but very nuder Generals Taylor and Scott, as shallow, so that the two entrances was Buckner (q.r.); during 1848-61 to the docks have to be kept open by was Buckner (9.2.); during 1848-bi to the docks have to be kept open by performed various duties as assistant continual dredging. The city stands adjutant-general; in 1861 B. belped to on a level plain, very little above organise the army of the Potomae, sea-level, and has a mild and moist and commanded in Kentucky. Major-climate. The streets are regularly general of volunteers in Civil War laid out at right angles to each other (1862) for the N., opposite party to and well lighted. Many are planted Buckner's. B. took part with Grant with trees, and there are numerous to be the of Shiloh and defeated Constructions of the construction.

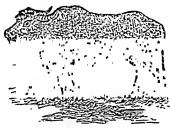
> of furniture, machinery, carriages, leather, hats, textiles, hoots, tobacco, liquors, etc., and the trade is very large. The exports, which largely go to Great Britain, include wool, sheep, meat, live-stock, and grain, and form a considerable proportion of the total

exports of Argentina. Pop. 1,034,781. Buer, vil. of Prussia, prov. of Westphalia, with coal mines. Pop. (1900) about 9000.

Buff, Charlotte (1753-1828), famed in German literature for winning Goethe's love, horn in Wetzlar. In 1772 Goethe visited Wetzlar, was often at her father's house, and fell deeply in love with Charlotte, who was engaged to Kestner and married him 1773. She was the prototype of his heroine in Leiden des jungen Werther, 1774. See Kestner's Goethe und Werther, 1854; Herbst, Goethe in Wetzlar, 1772 (1881).

Buffalmaggo, Buonamico (1262-1340), an early Florentinc painter. His work is not of any particular interest; he is chiefly celebrated for heing the originator of the idea of using a label drawn from the months of figures representing them as talking. He was for many years a disciple of Andrea Taffi, and to him are attributed some fading frescoes in the old Badia Church in Florence.

Buffalo (Bison Americanus), an animal of the bovine species once generally distributed over a space in N. America lying hetween Alaska and Georgia. The first authentic knowledge regarding it was that gained by Cobeza de Vaca in 1530, who de-scribed it as living in freedom on the Texan plains. From time immemorial the sev. Indian 'nations' have relied greatly upon this animal for food and 2. The federal cap, of the Argentine clothing, and its habits profoundly appearance in the W. bank of the Plata affected tribal custom and religious 150 m. from the sea. The Plata is rites. The B. roams in herds districted in the sea. The B. roams in herds districted in the search of the plata is rites.



which it was put into parfleche packs graphing,

by the Canadian government. used to

region. ever, is from tb

but destroyed in 1813 by a British,

buted into bodies of several thousand each, and was never found solitary. This hahit greatly affected the with the great ports of the lakes; method of its hunting. The hunting it distributes the manufactured property surrounded the herd, and, dets of the E. to the W., and the firing the grass, pressed in upon the raw products of the W. to the E., it nring the grass, pressed in upon the raw products of the W. to the E., it animals, which, panie-stricken hy stands as a innetion between ship the flames, fell an easy prey. The and rail: and it is the port of entry usual period for hunting the B. was; of the Buffalo Creek eustoma dist. in June, July, and August, when the In 1908 its imports were valued at animals were fat and the hair thin, \$6,708,919, its exports at \$26,192,563. the flesh being then in the hest eon-dition for food, and the skin easiest dition for food, and the skin easiest to dress on both sides for clothing and every considerable farmer in the every considerable farmer in the In B. was constructed by states. Joseph Dart in 1843 the first grain elevator. Its horse market is the greatest in America, its millions of head of live-stock, its immense annual receipts of lumber and fish, its iron ore and coal, are eloquent evidence of its wealth. Again, as a manufac-turing centre B, ranks next to New York. Among its manufactures are foundry and machine shop products, linseed oil, cars, and shop construction, mait liquors, soap, and candles, flour and grist mill products, lumber and planing mill products, clothing, iron and steel products. And amongst meat-packing, industries are petroleum · refining, ship · building, tents. The meat was cut into thin brick, stone, and lime working, strips and dried in the sun, after saddling and harness-making, lithothe making of patent for winter use. The sinews of the medicines and chemicals, copper animal furnished the Indians with smelting and refining. On the other bow-strings, thread for sewing, and hand its altitude, temperate climate, fibre for ropes, and the horns were excellent drainage and water supply made into spoons and drinking-make B. an attractive residential vessels. In winter the B. was hunted city, with a pop. which has steadily for its 'robe,' or skin, which was then and rapidly increased. The co. city of heartiest those of the heights being the second in page in Neuron. for its 'robe,' or skill, which was then and rapidly inscassed. All to be heaviest, those of the heifers heing Erie eo., the second in pop. in New the most esteemed. With the Indians or the B. was the type of long life and plenty. The last herd of any dimension in the U.S. was recently purchased the U.S. was recently and is encircled by 1030 acres of Buffalo City, founded under the parks linked together by houlevards name of New Amsterdam in 1801-2 and driveways. In 1901 the northern by Joseph Ellicott, the agent of the portion of the largest of these. Delaholland Land Company, gradually ware Park, was enclosed in the slopes upon the north eastern extremity of Lake Erie in New York state. Until 1810 it retained in the empany's books its original name; on Sept. 6 of that year. Its public limit its present designation was the and offse lutifiating are upon a mare but its present designation was the and office buildings are upon a mag-more popular, and tradition derives inficent scale, the Ellicott Square it from the herds of huffaloes that building ranking with the largest office structures in the world. (1906) 381,819.

Buff Leather, leather of a dull, pale yellow colour, made from S. American ox and cow-hides. This leather used out descroyed in 1913 by a Brussii, ox and cow-indes. This feature used Canadian, and Indian force, it rose to to ba made from huffalo skins, hence the rank of a city in 1832, and in 1853 the name. The best part only of the annexed its erstwhile rival. Black hide is used for B. L., which is very Rock. With the completion of the soft and pliant, and not liable to Eric Canal in 1825, B. rapidly ad-crack or rot. It is much used in the vanced into the forefront of com- army for soldiers' belts, facings, and

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ether purposes. The East Kent Regi-ment is called the Buffs, and the second battalion of the Segreth second battalion of the Seaforth Highlanders, the 'Ress-shire Buffs,' from the buff colour of their facings. The hides undergo a leng and complicated process of salting and drying. cutting and scraping, treatment with ced-oil, dressing, heating, scouring, seaking in carbonate of potash, and finally of rubbing with pumlee and sand.

Buffen, George Louis Le Clerc, Comte (1708-88), natural historian. was of rich and noble parentage. His life was rigorously devoted to science. but for some time he studied law at the Jesuit Cellege in Dijon. Here he met Lord Klngston, in whose company he toured in France and Italy, and travelled to England. Having built up a reputation as the trans-lator of Newton's Fluxions and Vegetable Statistics, he was Hale's appeinted keeper of the 'Jardin du roi. the Fr. Zoological Gardens. It probably this appointment which induced him to embark on his celessal Histoire Naturelle (1749-67), which Daubenton and others Although Its style is cellaborated. nften turgid and ultra-rhetorical— It was this which Rousscau and his ether contemporaries at heme and abread se frankly admired-it was. in spite of its many unsupported hypotheses, the first work to suggest the existence of evolution in the animal world. Inspired by a genuine love of learning he undoubtedly raised the status of biological science. His membership of most of the learned sceleties of Europe attest his wlde reputation.

Buffenla is a genus of plants of the erder Caryophyllacere, consisting of sixteen European species. The genus received its name in honour of Count de Buffen, the celebrated Fr. writer

on natural history.

Buffoon derived fro

Cf. the Fr. opera bouffe. Bs. have usually been associated with merryandrews and mountchanks, and are jesters of a cearser type, whose wit is elownish and talk eften scurrilous. They execl

> given to the line in the rmer eolour e now East Ross-shire

oattalion of Seaforth Highlanders). See Historical Record 3rd Regiment Foot, 1838; Mac aulay's History of England, 1., 1848. Bufo is the typical genus of the toad family Bufonida, species of

which are found all ever the world is 500 miles.

See TOAD.

Bug is a term variously applied to all members of the order Hemiptera. or Rhyncheta, or to those only which belong to the section Hemiptera-Heteroptera. Little is known about many of them, but ever 20,000 species from all parts of the world have been classified. As they all feed on the juices of plants or the blood of mammals, they are extremely iniurious to the human race. The chief characteristic of Bs. is the sucking or biting mouth parts, which are in the ferm of a proboscis or beak. species, o.g. Cimex lectularius, are wings, which are not present in all anterior pair in the Heteroptera have the distal half membranous and the basal half thickened, while in the Homeptera they are of the same consistency throughout. great. many of these pests are provided with stink-glands, which emit an extremely unpleasant edeur. The rate at which they increase is enormous, the females of some species laying as many as 200 eggs in summer: it may here be noted that Acanthosoma griseum, a field-bug, is one of the few insects which pretects and cares for its young. The boat-fly (q.v.) is an aquatic species which preys on insects and fish: members of the family Capside feed on fruit, lichens, and grass, and cause the buttoning of strawberries; ethers which are vegetable-feeders surround themselves with a feamy mass known popularly as frog-spittle. The bed-bug is a well-known creature which infests man, preying on him by night and sucking his blood; the cinch-bug (Blissus leucopterus) sucks the juice of plants; the squash-bug (Anasa tristis) feeds on squashes and pumpkins; the eetten-stainer (Dysdercus njures cotton; the family live nuder bark; and When

used in its widest sense, the term B. includes the aphide (q.v.), cochincal

and lae-dye insects. Bug is the name given to two rlvs. Russia. The Eastern B. rises In ln Russia. Pedolia, and flews in a south-easterly direction for 520 m. It at length empties its waters into the Dnieper Estuary. The chief feeders are the Ingul, Balta, Tehertal, and the Solenleha. The chief the are Bratslav, Voznesensk, and Nikeloev. The Western B. rises in Galicia, Austria. Its cenrse of about 480 m. forms part of the castern frontier of Poland, and at length it joins the Vistula, about 20 m. from Warsaw. Its total length Buga, a tn. of Colombia, dept. of hooded vehicle; in England it is a Cauca, E. of the riv. 50 m. E. of carriage with two wheels and no hood, Buenaventura port, with which a whilst in India a B. invariably has a railway is to connect it. Pop. about 12,500.

Bugasón, or Bugasán, a coast tn. on 30 m. from San José de Bnenavista.

Pop. abont 15,000. Bugeaud de la Piconnerie, Thomas Robert (1784-1849), was a famous Fr. soldier, who rose from private to the rank of colonel. He took part in the Napoleonie wars; in 1815 commanded the advance-guard of the army corps of the Alps. Chosen depnty for Perigueux in the July Revolution of 1830. Afterwards He was appointed Arabs, 1837. governor-general of Algeria in 1840, when he organised the famous Zouave Duc D'Isly. Died of cholera.

Bugenhagen, Johann (1485-1558), Ger. Protestant reformer, b. at Wollin, Pomerania; studied at Greifswald; hecame rector of Treptow Academy in 1504; took holy orders in 1509. In 1520 he was converted to Lutheran in military signals, are C (below doctrines hy reading Luther's De stave), G. C. E. G. The three of Caplivitate Babylonica. He matrican notes, C (octave lower), and Bb at lated at Wittenherg in 1521, and was above, are somewhat ineffectual. of great assistance to Luther in his translation of the Bible. In 1524 he wrote a commentary on the Psalms.; and from 1537-42 was engaged in organising the reformed church in

Denmark.

Bugey, a dist. in France, in the old prov. of Burgundy, now forms part of the dept. of Ain. Its cap. was Belley.

Bugge, Elsens Sophus (1833-1907), Norwegian philologist and antiquary, b. at Laurvig; educated at Christiania, Copenhagen, and Berlin. In 1866 he became the first occupant of the chair of comparitive philology and Old Norse at the university of Christiania. His numerous authoritative works on Norse literature and archeology, and Germanie philology, include: Gamle Norske Folkeriser, 1858; Norrene Fornkradi, an ed. of the Edda, 1867; Norrene Skrifter of Sagnhistorisk Indhold, an ed. of the Volsunga and Hervara sagas, 1864-73; Studier over der Nordiske Gude og Hellesagns Oprindelse, 1881-9; Norges Indder Nordiske Gude og Hellesagns 19,390.

Oprindelse, 1881-9; Norges Ind.

Buhl Work, or Boule Work, a kind
skrifter med de Aeldre Runes, 1891; of marquetry invented by a French
Bidrag til den Aeldste Skoldedight,
nings-histoire, 1894; Lykische Studier,
1897 (Eng. translation, 1899); and inlaying of tortoise-shell, enamel, roseTollning of Runeindskriften pag wood, and various piered metals,
Rökistenen, Oesterpölland, in the land has a highly decorative effect

Buhl

Bugis are a people who inhahit Macassar and Boni in the Celebes Is., W. of Panay, Philippine Is., about belonging to the Indian Archipelago. They are of medium stature and of a somewhat fair colouring. They are somewhat fair colouring. crafty and revengeful, although they have been found to be faithful, obedient slaves, if treated well. They clothe themselves in a piece of striped cotton round the waist, and bind their hair in a coloured cloth. They trade in gold dust, nutmegs, camphor,

birds' nests, etc.

Bugle, a wind instrument, made of created marshal hy Louis Philippe, copper, with pieces of brass soldered who sent him into Algeria to quell the on to the most exposed parts to prevent wear. Compared with trumpet, its tuhe is shorter and more conical, and the bell less expanded. regiment; after his subjugation of the As its notes are peculiarly penetrat-doors in 1844, received the title of ing, it has been widely adopted for giving directions to large or scattered bodies of troops. Used at first for bodies of troops. infantry only, it has now supplanted the trumpet for cavalry and artillery too. It is in the key of B, and its open notes, which alone are employed in military signals, are C (below the stave), G, C, E, G. The three other notes, C (octave lower), and B; and C cornet has now quite superseded the Kent B., which was fitted with kers to increase its compass, and which at one time was one of the most popular instruments in brass bands. In spite of its difficulty, this particular B. is still a part of the bugle bands of certain rifle regiments. The B. calls, contained in the drill manual, are known alike to officers and to the rank and file. One G signifies 'right,' two Gs 'centre,' and three Gs 'left,' while more elaborate calls mean 'Advance,' Cease Fire,' 'Assemble,' Charge, etc.

Bugulma, a Russian tn. in Samara. It has an important situation at the junction of two roads from Orenburg and Ufa. A yearly fair is held. Pop.

Buguruslan, a Russian town Samara, at the innetion of the Kinell and Tarkhanka. Its manufs. are leather, potash, wax, and beer. Pop. 19,390

Indigrarish Tidshriftfor Stories, vol. v. | when applied to ornamental pieces of Buggy, an Indian word, is used of a furniture. Boule was patronised by variety of carriages. In the United Lonis XIV.. and his work is still States it means a light, four-wheeled, valued by collectors.

subjects. Although devoted mainly to the sciences of engineering and architecture, this journal includes a number of interesting articles on sculpture and the decorative work generally. Some of the highest anspect, and should be attractive to the rer readers of all classes. The first editor boards, of this fournal, which appeared in glazier
1842, was Mr. H. H. Hansom, the the par
inventor of the hansom cah. The dividual trades for further details,
present editor is Mr. Statham.

Building By-laws. With the objection

down a layer of concrete as a foundaground. The erection of the walls is then commenced by the mason or bricklayer, and when these have heen carried a little above the ground-level 'a damp-proof course 'is laid along every wall. Walls are generally huilt of stone or brick, and gradnally get less thick as they rise from the ground. Dividing walls may be 9 or 121 in their chile outer wells should

Buhrstone, or Burrstone, a siliceous the lead-pipings, and make sure that rock deriving its name from the rough none of the parts to be enclosed are surface presented. It is largely used liable to loakage. He then fixes the as millstones and for grinding, and is eisterns, haths, water-closets, kitchen as millstones and for grinding, and is leaterns, naths, water-closets, kitchen to be found in France, Scotland, and sinks, taps, ventilating pipes, soll-Wales, while there is also a German variety.

Builder, The, a weekly journal through every room. The slater then (Friday, fourpence), fully illustrated, proceeds to cover the roof with slates and affording all sorts of information (having first laid a layer of felt over on architectural and archæological the sarking-boards) or tiles, and if subjects. Although devoted mainly the walls require harling or roughcasting he undertakes this work. smith has to fix all steel girders. joists, and beams, and to provide screws, bolts, etc. Laths are then nailed to generally. Some of the highest anthe the wall and ceiling-joists, allowing thorities in the architectural world room for the plaster to grip between contribute to its pages. The illustration, and the plasterer lays on three contribute to its pages. The illustrative them, and the plasterer lays on three tions are of a high order, showing coats of plaster. He also fixes all various designs in the construction of hulldings, and giving excellent explained the plaster, the plaster, the bell-hanger will work. In its original form, the B. was leave put in the hell-wires and hang merely a trade journal, but it has the hells, and when the plasterer quite altered its character in this retained to the recovery and should be extractive to the recovery.

present editor is Mr. Statham.

Building, a term used to apply either to the art and craft of creeting of securing a measure of conformity with sanitary principles in the conedifices, or to the edifices themselves. The walls of houses may be huilt of many varying materials, from the ice and snow of the Arctic regions to the leafy houghs of the tropies. In temperate climes, however, a more stable edifice is required, and civilisation has given the work of creeting these edifices to different craftsmen, all of themselves of walls, foundations, roofs, and ehimneys of new buildings for securing stability and the prevention of ires, and for purposes of health; also, mason, bricklayer, carpenter, plum, with respect to the drainage of buildings, and to the sufficiency of the space hanger, glazier, and painter. After about buildings, so as to ensure a free chronation of air and proper Building By-laws. With the object hanger, glazier, and painter. After about buildings, so as to ensure a the site has heen excavated, it is free circulation of air and proper groups of the space. generally found necessary to put ventilation. The act also enables the local authority to frame by-laws with tion. This varies in thickness according to the situation and state of the situation and state of the since the passing of Mr. Burns' ground. The erection of the walls is Housing and Town Planning Act, then commenced by the mason or love, the machinery for closing and bricklayer, and when these have been demolishing houses which are proved to the satisfaction of the local and the the satisfaction of the local and the satisfaction of the sat to the satisfaction of the local au-thority, either by the medical officer of health or by any other person, to be unfit for human habitation, has been so strengthened that it is hardly necessary to make any special provision by way of by-laws. Where a 13½ in. thick, while outer walls should vision by way of by-laws. Where a not be less than 13½ or 16 in. The fixing of drains, chimneys, ctc., is all tions he is required by the by-laws included in the mason's work. The of most if not all local authorities to carpenter then puts in lintels, floor-deposit plans of his intended buildjoists, rafters, tie-heams, and the rest incs for the approval of the local of the woodwork which is necessary authority, under pain of having his at this stage. The plumber's work pulled down, if he commences must now be done. He has to fix in to build before the local authority

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signifies its approval and the huilding, settled land for 99 years, so as to bind is not in conformity with the hy-laws. Approval or disapproval must he signified by the local authority within one month of the deposit of the nature of a joint-stock association, plans. It is noteworthy that since the formed with the object of raising by the street of the Howsing and Flows the street in the object of raising by tions. For fuller information. see Knight's Annotated Model Bye-laws, and Casson and Ridgway's Notes on the Housing and Town-Planning Act, 1909.

Building Lease, a lease granted usually for a long term of years to a builder for the purpose of erecting, improving, adding to, or repairing buildings. The term does not include leases granted on the terms of merely keeping existing buildings in repair. A B. L. may be granted prior to the commencement of the huilding operations, but the general practice on the part of owners of land who are developing an estate is to enter into an agreement with the builder by latter eovenants COVENANT) to build and the owner covenants to grant leases at a ground rent as and when the buildings are by its rules borcompleted on any specified part of the fixed date or land. The absence in a B. L. of a any specified covenant to build is fatal to its vali- 1874 every so dity. A mortgager while in possession of an express power to grant land Atlant for life under the S

Land Acts may grant B. Ls. (

Building

passing of the Housing and Town the subscriptions of the members a Planning Act, 1909, local authorities stock or fund ont of which to make may suspend their B. B. where a advances to members upon real or town-planning scheme has been leasehold estate by way of mortgage. town-planning scheme has been leasehold estate by way of mortgage, initiated. The ideals of town-planners. The hoon conferred is that every one were found impracticable under the who joins such a society may in rigidity of the existing model by laws course of time become his own land-as issued by the Local Government lord. In addition, however, B. Ss. Board. The existing model by laws afford a means of investment of small enable a builder to erect as many as savings. Prior to the earlier part of fifty-six houses to the acre, whereas the 19th century B. Ss. had heen the principles of hygiene, according established in different parts of the to town-planning experts, forbid the United Kingdom, principally among of more than a dozen, the industrial classes, and in 1836 an Economically it was necessary to give 'Act was passed with the avowed local authorities power to suspend object of encouraging and protecting the operation of their existing B. B., such societies. Since that time B. Ss. hecause it is only by such relaxation have flourished extensively, and the that they can secure a cheapening of benefits accruing from them, con-estate development. Moreover, the trary to the former intention of use of reinforced concrete, and other parliament, are no longer restricted newer materials for building, to a to the industrial classes, but have great extent stultified the existing afforded the medium for the profituse of removed an area of the profit of the materials for building, to a to the medium for the profit-by-laws. As a result of repeated able investment of very great sums of agitation in parliament, the Local imoney and have assisted many thousands of persons in becoming the profit of their existing by-laws, even ley and Brabrook on Building Society where no town-planning seheme was ties.) Under the Act of 1874 B. Ss. in progress; such relaxation, however, to be subject to certain restrictions. A terminating society is one which by its rules is to terminate at a fixed date or when a result specified in its rules is attained. Such a B. S. usually contains a limited number of members. to whom, as soon as the aggregate subscriptions reach a high enough amount to pay the present value of the sbare or shares of any one or more members, advances are made until the value of each member's share or shares is fully paid; the member who receives the advance gives a mort-gage to secure the continued payment by him of his subscriptions, and when all the members have been paid the amount agreed upon as the value of (see their share or shares, the society wner automatically comes to an end. A permanent society is one which is not 1874 every society whose rules have

been certified under the repealed Act has power in the absence of a stipulation of 1836 may obtain a certificate of tion to the contrary to grant huilding incorporation from the registrar of leases for a term not exceeding 99 friendly societies and become a body years. So, too, a mortgagee if in corporate by its registered name. (See possession: If not, then only by virtue also Convoration.) This applies to 105

rated act through trustees. B. Ss. established since 1874, and not falling within the above category, may also become incorporated under that Act.

Building Stone, stone used for con-structional purposes. The use of stone quarried from the earth for the purposes of constructing dwellingplaces and monuments dates from the earliest times of history. Certain kinds of rocks bave for long been selected for their suitability for building purposes. It is evidently necessary for the construction of large buildings that the stone employed should be able to withstand the very great forces called into play by the weight of the building. It should also be a stone which can be quarried easily, and which does not offer too great resistance to the mason's tools. The question of the weathering of the stone has also to be taken into account, especially in that destined to he used for the outside work of buildings in large cities. The rain-water of large towns contains in solution a relatively large amount of carbon dioxide (carbonic acid gas), and the sointion bas a considerable dissolving action on B. composed of limestone. It bas been found that granites among Igneous rocks and sandstones and limestones among agneous rocks, are most suitable for bnilding purposes. Each of these kinds has certain properties which render it most suitable for par-Thus for ticular kinds of work. strength and resistance to atmospheric action granite is by far the best, while marble (limestone) is chosen where heanty of colour and form is the chief property required.

Granites occur mostly in great

masses, which may cover hundreds of square miles of country. In England the granites of Cornwall are the most important, but the Lcicestershire granite (Monnt Sorrell) and the Shap granite are also very widely known. In Seotland the granite of Aberdeen, Peterbead, and Ross of Mull are very largely quarried, and much granite is quarried in N. America, Canada, Norway, Sweden, and Russia. best varieties of granite are strong, durable, impervious to moisture, and when of suitable colour have a pleasing and ornamental effect. In Aberdeen granite is the principal B. S., and a large amount of polished and cut granite is prepared and exported for ornamental work, both in Britain and abroad. Many of the quarries in the British Isles are, bowever, in remote districts, and the rocks are difficult

to dress. Sandstone is similar in composition to sand, but its grains are elemented important as a support of the railway together usually by silica. Pure sand-cantilever bridge built in 1889. stone is white or pale yellow in

colour. It is usually very hard and capable of withstanding weathering It is perhaps the most widely used of B. Ss., there are few of our large cities in which it is not seen. A good example of a sandstone of tough quality. pure colour, and great durability, is the Craigleith stone. Ferruginous sandstones have a yellow, brown, or red colour, and are used to a large extent for building, as they are easily dressed and can be obtained in large quantities. Less durable than granite and less easily weathered than limestone and marble, sandstones are excellent for all architectural purposes. must always be laid with original bedding horizontal, as in that way they weather most regularly.

Limestones consist of calcium carbonate with various admixtures. They weather readily, especially when exposed to the acid smoky atmosphere of towns; they are, bowever, much used in building, e.g. Bath stone and Portland stone. Bath stone is an example of limestone of the Ochitic formation; it is easily quarried, bnt is not of a very durable nature.
The famous Portland stone, which came into favour early in the 18th century, furnished the material century, furnished the material for St. Paul's Cathedral and the present Honses of Parliament. Magnesian limestone, or dolomite. occurs in varying qualities, and much of it affords good building material. The siliceous dolomite of Mansfield has been used in many important build-Crystallinc limestones, marbles, are invaluable for statuary purposes, Carrara in Italy producing the finest kind. They are suitable for interiors, but although fine in effect are very costly and unable to with-stand the smoke of towns.

Buitenzorg, a tn. and summer resort in Java, Dutch E. Indies. It is the cap. of an assistant residency. It is 36 m. S. from Batavia hy rail, situated in very hilly country, and possesses a particularly fine climate. The merchants reside here in the summer months. There is the palace of the greaters general and compared to the palace. of the governor-general, and some famons botanic gardens. Pop. 25,000.

Bujalance, a tn. of Cordova, Spain, 24 m. E. of Cordova. It has large manufs. of woollens, leather, etc. Pop. 11,000.

Bujnurd, a tn. in Persia, in prov. of Khorassan; fertile soil; inhab. chiefly

Kurds: pop. about 8000.

Bukharest, see Bucharest.

Bukkur, is. of the Indus, in Sindh,
British India, lying between Rori and
Sukkur on the riv. banks. It was
formerly a military post, and is now

Buknfjörd, in Norway, situated in

situated on the W. bank of the tunie; the bulb of the lily is scally, or Vietoria Nyanza.

Bukowina, duchy and crown-land in the Cisleithandiv. of Anstria-Hungary, bulb is in reality a corm, or solid flesby bounded on the K. and N.W. by Galicia, on the E. hy Russia and Moldavia, on the E. hy Russia and the containing a portion of the the containing a portion of the carpathian range, and almost half of ground it forms a new plant, and is its surface is covered with forest. The its surface is covered with forest. The this useful in vegetative reproduction is very fertile, and much fruit is grown in the river valleys. The only are species of Lilium, Lycopodium, mineral wealth is salt and manganese. Ranunculus, and Agave. Originally a part of Moldavia, B. was Capital, Czernowitz.

soil is fertile and there is considerable has been stored up in the fleshy mineral wealth. Area, 1173 sq. m. leaves. Examples of such plants are Pop. 223.742. 2. Tn. in above prov. the tulip, hyacinth. lilr, and onion. Bulbul is an Arabian and Persian word frequently used for a species of nightingale (Daulias hafizi) intro-

Bulana, the most eastern of the Bissagos Is., off the W. coast of Africa. An attempt to found a British settlement here in 1792 failed through the terrible mortality among the settlers.

Bulandsbahr: 1. Dist. of Meerut div., United Provs. of India. lying between the Jumna and the Ganges.

the prov. of Stavangar on the N.W. innermost leaves. The bulbs of the coast: this fjörd runs inland 35 m., onion and hyacinth are said to be and is 10 to 15 m. broad.

Bukoba, in Ger. E. Africa, a station situated on the W. bank of the situated on the W. bank of the victoria Nyanza.

Bukowing duply and completely entire the bulb of the lily is scaly, or imbricated, i.e. the leaves merely

Bulbous Plants are those which annexed to Austria in 1775. The area spring from a hulb, and are usually is 4031 sq. m., and the pop., mainly found wild in light sandy soil, in Ruthenians and Roumanians, 729,931. sheltered places. When the season is wet they develop rapidly, but when Bulacan: 1. Prov. of Luzon, theseeds are ripe the leaves wither, and Philippine Is. A hilly dist., containtum the hulb falls into a state of rest for ing spure of the Caraballo Mts., and half a year. The young plant at first watered by the Pampanga R. The feeds upon the food material which

> word frequently used for a species of nightingale (Daulias hafizi) intro-duced by Thomas Moore and Lord Byron into English poetry. The term has, however, been applied for many years to various species of the families Pycnonotide and Timellide, or habbling thrushes.

Buldana, a tn. and dist. in W. Berar, India, with fertile valleys. The prin. manuf., cotton cloth: oil seeds

between the Jumna and the Ganges. Exports cereals, indigo, and cotton. Area, 1915 eq. m. 2. Cap. of above dist.. 40 m. S.E. of Delhi. A place of great antiquity. Pop. 18,500.

Bularchus, a Lydian. is mentioned. Bulgaria, a kingdom lying between the Bularchus, a Lydian. is mentioned. Bulgaria, a kingdom lying between the Januhe and Turkey, nnd the Bulgaria, a kingdom lying between the Januhe and Turkey, nnd the Bulgaria, a kingdom lying between the Planuhe and Turkey, nnd the Bulgaria, a kingdom lying between the Januhe and Turkey, nnd the Bulgaria, a kingdom lying between the Bulgaria, a kingdom to the Greeks.

Bulawayo, see Buluwayo.

Bulb is the name given to a specialglied underground hud which consists
of a short, thickened stem surrounded by a number of overlapping leaves; wide range of temperature, but it is
which contain reserve material for bleathy expert in the reserve to the state of the state o by a number of overlapping leaves whe large of temperature, but it is which contain reserve material for healthy except in the marshes along the next season's plant. Adventitious the rivers and the Black Sea. Forest roots grow at its base, and usually trees (oak, sumach, thorn, elder) and small buds arise in the axils of the orchards of plums, walnuts, apples,

pears, and cherries occur frequently, service is compulsory, 16,000 recruits Bear, wild boar, red and roe deer, heing drafted every year. Bulgarians chamois, eagles, wild fowl in the are, as a rule, of smaller stature than marshes, and partridges, wolves, their neighbours. They are powermarshcs, and partriages, woives, their negations. They are power-squirrel, and marmot are plentiful fully hullt, laborious, and sensible everywhere. Sturgeon are taken in the Dannbe, trout in all streams, and mackerel (for drying) in the Black The chief towns of B. are Sofia, Sea near Burgas. The chief domestic Philippopolis, Rustohuk, and Varna. animals are horses (small and males, for riding only), asses and mules, buffaloes, sheep and oxen. The soil trade in consequence of its important position on the Vienna-Constanting position on the Vienna-Constanting of the position of the vienna-Constanting of the vienna-Consta being salt, which is found at Anchia-los and Balchik. Ten to fifteen thousand tons are produced annually, capital of Gypsum is found near Stava Zagora, ports lar-and coal in the Struna valley. Iron roses. F and coal in the Struna valley. 1ron roses. In and gold also exist, and there are olives also sulphur springs on the S. of the Balkans. The chief occupation of the people is agriculture, which engages Varna is and oxported in the property of the coals (wheat, maize, rye, barley, 3.723.190. Area 385,600 sq. m. rical.—B. was originally interpretations and under the

Sea. Roses are cultivated to a large seat. Roses are controlled to a large extent, especially round Kazanlik and Karlavo and on the N. side of the Rhodope Mits, for attar of roses, which is largely exported. About 12,000 Bulgarians go abroad every spring, returning in the autumn to work as a cardeness. gardeners. Silkworms are bred in Philippopolis and Haskaro. Tobacco is carefully cultivated. There is little apart from domestic branches, of which the more notable

work, and pottery-making. The chief exports are grain, live-stock, hutter, eggs, hides, and attar of roses, sent chiefly to Turkey, France, United Kingdom, and Austria-Hungary. The population consists of Bulgarians, Turks, Greeks, Spanish Jews, and gypsies, though three-quarters are Bulgarians. Since 1877 large numbers of Turks have left the country, their places in the towns heing taken by places in the towns heing taken by Bulgars from the hills. Bulgars are deseended from Finno-Ugrie Bolgari, but have been thoroughly Slavised. The Orthodox Greek Church counts 77 per cent. as its adherents, Islam 214 per cent., and the rest are Jews. Tho executive head of state is an hereditary prince. The members of the legislative national assembly the legislative national assembly (Sobranic) are cleeted directly by the people, and sit for three years. The main line of railway from Vienna to Constantinople runs through the capital, Sofia, Philippopolis. and There are nineteen towns whose

Sofia is the capital, and is situated on the R. Isker. It is a busy place of nople railway. It has a pop. of 70,000. Philippopolis, or Filibeb, was the

by Thracians, and under the formed the province of Later it was occupied by the Slovenians. The Bulgars Slavonic Slovenians. The Bulgars were originally a Ural-Altale people. They came from the hauks of the Volga and crossed the Danube in the 6th century, and occupied the East. They overcame the Slavs, adopted their language and customs, and thus hecame a great Slav power. In 864 Prince Boris, their chief, was haptised. and the Bulgarians became dependent on the patriarchate of Constanti-nople. The Bulgarians were victorious

inst the Magyars and Greeks in 9th and 10th centuries. Simeon, ir prince, assumed the title of autoerat of all the Bulgarians and of all the Greeks, and Serbs and Byzantines paid trihute to him. The Bulgars dominated Macedonia, Thesaly, Epirus, and Albania. In 963 the W. part of B. broke away and formed a new kingdom thus weakering the a new kingdom, thus weakening the Bulgarians in their rivalry with Byzantine emperors. At the end of the 10th century part of Eastern B. was incorporated with the Byzantine empire, and in 1018 the western Bulgarian kingdom became a Byzantine province. In 1186 a third Bulgarian kingdom was formed by a successful rebellion, and remained until the arrival of the Osmanli Turks. The Greeks hated and abused the Bulgarians to such an extent that the word B. became an odious hyword among the European nations. An attack on Constantinople by Bulgars and Servians was repulsed, and the Bulgarian capital was taken in 1393. Under the influence of Byzantium and of Christianity, B. had attained in the middle ages a degree of civilisapopulation exceeds 10,000. Military tion equal to that of western nations, subject to the tyrannous rule of the Ottoman empire. About the middle of the 19th century the unconcealed aspirations of the Christians attracted the suspicions of the Moslems and

hody of irregular troops), destroyed villages wholesale. In the province of Philippopolis and districts around, more than fifty-eight villages were destroyed in a few months, and men, women, and children were cruelly slain. These 'Bulgarian atrocities' awakened horror throughout Europe, and especially in England, and sug-gestions were made of forming two result of the war, the Berlin treaty (1878) constituted an autonomous though tributary B., N. of the Balkans, whilst to the mainly Bulgarian province, S. of them, known as Eastern Roumelia, it granted administrative autonomy. In 1885 Eastern Roumelia was incorporated with the Bulgarian state. Taking advantage of the Foung Turk revolution, 1908, and Austria's annexation of Bosnia-Herzegovina, Prince Ferdinand repudiated the last sbred of Turkish suzerainty and proclaimed himself Tsar. This action was allowed to stand by the Great Powers. In 1912, B. with Servia, Greece, and Montenegro formed the Balkan Balkan League, and with its allies formulated the demands which led to the Balkan War (q.r.) between the League and Turkey. To B.'s lot fell the heaviest fighting, and it is hardly too much to assert that the successful issue of that war was due, in the main, to the valour of the Bulgarian troops, the martial skill of General Savoff, and the diplomacy of King Ferdinand.

Language and Literature. - The original Bulgarian tongue was Ural- while in action, and, as a rule, each Altaic, but it has left only few traces B. is fitted with an hydraulically in the Slavonic s.

Bulgars who settl Peninsula. The

tongue is closely alney to the Russian, but some Servian, Greek, Romanic. Albanian, and Turkish elements have found their way into the language. The literature in the old days of B.'s glory consisted chiefly of translations from Greek and theological works. Modern literature since 1762 consists chiefly of editions of a popular and political nature. The poems of Slavis-kov, tho novels of Karavelov, and the historical works of Drinov deserve

but this was destroyed by the in-mention. There is also a rich lyrical vasions of Tartars and Osmanli. For popular poetry. The Cyrillic alphahet close upon 500 years the Bulgars were is that in general use, as in Russian, viz. that modified out of Greek hy

Cyril Bulgarian Milk, milk containing lactic acid. Sour milk has long heen looked upon as a healing agent, and the hastening of the souring process by introducing a portion in which tho bacteria bave already been at work is an idea horrowed from the Bulgarians and Tatars. The baeteria help in the formation of lactic acid, which acts as a preservative, preventing further decomposition. It is suggested that when sour milk is taken as food, the bacteria multiply in the intestines and aid digestion by preventing

and aid digestro-harmful ferinentation.

Tadei Venediktovitch autonomous states. The Porte re (1789-1859), a Russian writer, born in fused to make concessions, and in Lithuania, of Polish and later; served 1877 Russia, as guardian of the Slav against France, and later in Naporaces of Turkey, declared war. As a leon's Polish army; settled in St. Petersburg about 1820. In 1823 he founded the Northern Archive, and in 1825 a newedition of the Northern Bee, where his bitter and sareastic writing attracted much attention. He was a follower of the Absolutist party, and nonwer of the Absolutes party, and was intimate with the secret police. His novels include: Ivan I'ishigin, or the Russian Gil Blas, 1829 (Eng. translation, 1831); Peter Ivanoviteh Vishigin, 1830; Mazeppa, 1832; and he niso pub. An Historical, Geographical, and Literary Survey of Russia, 1837.

Bullimus is the pame of a large

Bulimus is the name of a large genus of land-snails comprising over 1000 species. They have external shells, and are related to the hedgeand glass snails.

Bulkheads: 1. The partitions which divide up the internal spaces of a ship. They are generally transverse ship. They are generally compand water-tight, but they may be longitudinal and partially or completely non-water-tight, as the circumstances may require. In warships stances may require. In warships particularly the transverse water-tight B. are very numerous to check the entrance of water through damage

ked door which closes automaticwhen the compartment is flooded. subdivision required by Lloyd's Register for all steamers are four, i.c. one B. at each end of the machinery spaces and one at a reasonable distance from each end of the ship. For

larger steamers other B. have to be fitted accor nearest the

B., and tb after-peak B. In sailing ships tho collision B. only Is required. 2. The matebboarded space which lights the basement under the stall-hoard in a

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ehop. and tunnels, etc., sometimes solid and sometimes provided with a door for passage of men and materials.

Bull, see Ox.

Bull, a papal instrument. ordinance, letter, or decree, issued by the Apostolic Chancery, and differing from hriefs down to 1878 in heing written in Gothic script. At that date Pope Leo XIII. ordered the use of Latin Leo XIII. ordered the use of Latin typical Englishman. It took its rise script, and restricted the use of the from Arbnthnot's History of John very anet. leaden seal to important. Bu" Bs., replacing it in other cases hy a the red one. Bs. are written on parch- up ment, to which the seal is attached by a yellow or red silk cord when con- and other comic papers. cerned with the granting of favours, but hy a grey one when dealing with the administration of justice. The name comes from the Lat. bulla, The meaning the capsule of wax surrounding a seal; the term being extended to the seal itself, and then to the doen-ment. All Bs. begin with the name of the pope, followed hy Servus servorum Dei. Among the most famous Bs. of history are Clericos Laicos, 1296, and Unam Sanctam, 1302, Issued by Boniface VIII. against Phillip le Bel of France; In Cena Domini, 1362, Issued against hereties by Urhan V.; Execubilis, 1460, in which Pius II. declared the papal stuperforit over the elared the papal superiority over the councils; Exsurge Domine, 1520, Issued by Leo X. against Luther and hurned by him; Unigenitus, 1713, which condemned Quesnel; Dominus ac Redemptor Noster, 1773, issued by Clement XIV. to abolish the Jesuits; Ecclesia Christi, 1801, which establish Concordat with France; Sollicities of the Sollicity of the Concordat with Sollicity of the Concordat with Sollicity of the Sollicity tudo Omnium, 1814, hy which Pius VII. restored the Jesuits; Ineffabilis, 1854, proclaiming the doctrine of the works of Mozart and in the national Immaculate Conception, and Pastor Elernus, 1870, in which Pius IX.

Bulla, a termapplied by the Rom proclaimed papal infallihility.

Bull, an amusing and unintentional

Bs. are usually associated with Ireland, and many of the hest examples tended to all children of free hirth. Parnell Commission, himself a soldier | Enthyncura. L. Edgeworth's Essay on Irish Bulls, B. solitaria is an American species.

Bull, George, D.D. (1634-1710), a learned churchman, educated at related to the sloe and plum. The Triverton School and Exeter College; would not take the oath of allegiance to the Commonwealth, and was Bulke, collections of serum raising

3. The sea-walls which mark privately ordained, in 1655, by Bishop the line of the shore and from which Skinner, who thereby committed a the piers and quays project. 4. A capital offence. As minister of St. general term for a partition in mlnes George's, near Bristol, he followed the liturgy under the cloak of extemporary devotion. His Harmonica Apostolica, 1659, written in Latin. served to minimise the divergence in the views of St. Paul and St. James on justification, hnt the work which estah. his high reputation was entitled Defensio Fidei Nicenæ, 1685.

Bull, John, a popular term for the

idea has been since evolved in Punch

Bull, John (c. 1563 - 1628), Eng. musical composer, horn in Somersetshire; became organist of Hereford Cathedral in 1582, and in 1585 was admitted to the Chapel Royal. He was the first professor of music at Gresham College, and one of the musicians of Prince Henry. He left England in 1613, and died in Antwerp. 'God save the King' has heen attri-

buted to him.

Bull, Ole Bornemann (1810-80),
Norwegian violinist, horn at Bergen,
and was largely self-tanght. In 1828 he appeared at a concert, and was so successful that in 1829 he went to Cassel to study under Spohr. He soon returned to Bergen, Int in 1832 made hls real déhut in Paris. Here he heard Paganini, and adopted his style of playing. He performed with great success all over the Continent till 1839, when he went into retirement for a few years. In 1843 he went to America, which he frequently re-America, which he frequently re-visited. His technique was wonderful, and he showed to he stad vantage in the works of Mozart and in the national

Bulla, a term applied by the Romans to any ornamental stud or hoss, hut particularly to an amulet worn round the neek by children of noble hirth till they attained maturity. The custom was of Etruscan origin, and after the Second Punic War was ex-

are Irish. One of the most famous is Bulla, or Bubble-Shell, is a genus of that made by a speaker during the gastropod molluses of the order The species inhabit who had run away during action, who minddy and sandy sea-water and feed stated that it was 'better to he a on animal matter. The shell is ex coward for a few hours than to be ternal, has no projecting spire, and is dead all the rest of your life.' See R. so thin that it resembles a bubble.

They may be due to injury or friction as in rowing, or be symptomatic of skin affections, as pemphigus and

hydroa. Bullant, Jean (c. 1515-78), Fr. architeet and sculptor, developed his taste and acquired his knowledge by a faithful study of the classical monuments and statues in Italy. This may be gathered from his later treatise entitled Reigle Generalle d'Architecture des cinq Manières, 1568, earlier being a description of 1568, the various methods of making sundials, which he called Recueil d'Horlogiographie, 1561. His Château d'Ecouen, begun about 1540, is universally re-cognised as one of the finest architectural achievements of the period, and is remarkable, above all, for the purity of its style. For Catherine de Medici, who early appreciated his talent, he built the Hôtel de Soissons, which stood on the site now occupied by the Bourse de Commerce. The Hôtel Carnavalet, the central buildings of the Tulleries, and the tomb of Henry II., and his patroness, Catherine, are also his work.

Bullas, in Spain, site on hill in prov. of Murcia; interesting Rom. remains; manufs. hempen fabrics, eathenware,

and brandy.

Bull-baiting, formerly a popular sport in England. A bull, with the points of its horns protected, was fastened to a stake and attacked by fierce dogs. The sport was abolished

herce dogs. The sport was aboushed by law in 1835. Bulldog, a breed of dog formerly employed in the middle ages for the baiting of bulls. It is probably a sub-variety of the mastiff, crossed with lesser breeds, and the tales concerning lesser breeds, and the tales contains its descent from the hyæna may be much fiction. In dismissed as so much fiction. In Elizabethan times these dogs were perhaps the most sought after English breed, because of the prevalence of the sports of bull- and bear battler Their ability to seize

muzzles of the anin

became proverbial, and was only due remained till 1899. in part to their innate courage, as popularly conceived, the nature of the 'underbite' or locked jaw peculiar to the breed making it difficult for the animal to loose its hold when once securely fixed. There is some evidence that the B. was known in Roman Britain. During the 18th and early 19th centuries the breed was in .DLO-

inces

the outer skin from the true skin. is useless. The points of the modern B. are as follow: Colour, white (the colour), brindle, standard brown, not black, which is disallowed; skull of massive proportions, deep stop between the eyes, which should be placed well apart; nose black, if spotted with pink it is known as a 'dndley nose,' and tends towards disqualification; ears 'rose' or 'tulip,' neatly set and light; neck thick and short; chest well developed: legs massive, showing plenty of bone, and short, so set as to give the dog the appearance of being 'cloddy' or set near the ground; body short, tapering near the short ribs, and neatly proportioned; back shaped like that of a roach; tail very short, and never carried high. The dog must be 'short-faced,' and the nose well set back—the further the better -hetween the eyes, and the tecth. upper and under, should be well displayed. Weight from 20 to 65 lbs.

Toy Bulldogs have of recent years achieved considerable popularity as a breed, especially in France. They possess few of the characteristics of

the heavier breed, with faces less 'set back,' and heavy bat-ears. The Dogue de Bordeaux is a species of B. employed as a bull-batter in the bull rings in the S. of France. It has the appearance of a cross between a B. and a mastiff, and is steadily growing in popularity among breeders in this country. When crossed with other breeds, especially with the mastiff, the B. tends to become vicions and even dangerous, and this cross is much in demand among night-watchmen and persons who have the charge of premises during the night.

Bullen, Frank Thomas, British anthor, born at Paddington in 1857; left school in 1866 to become an errand boy. Led an adventurous life. Went to sea in 1869, and made many --- ges, becoming chief mate at one

Left thesea in 1883, and entered Meteorological Office, where he ained till 1899. Amongst his many works may be mentioned The Cruise of the ' Cachalot;' Idylls of the Cruise of the Cachada; Taylis of the Sea; The Log of a Sea-Waif; With Christ at Sea; The Apostles of the South Sea; Deep Sea Plunderings; A Whaleman's Wife; Creatures of the Sea; has also written many stories,

articles, and essays. Buller, Charles (1806-48), a British politician. b. at Calentta; educated at inces Harrow, Edinburgh, and Cambridge, cter, In 1830 he entered parliament as reand, as every breeder knows, is presentative of West Loos, and voted notorious for its good nature, especially with children, who are much safer with it than with the more 'snappy' was returned for Liskeard In 1832 he when the canada as secretary to

Buller, Sir Redvers Henry (1839head of the intelligence dept., and in 1884-5 as chief of the staff in the Soudan War, receiving the K.C.B. in 1885. He became a quartermaster-general in 1887, and also Under-Secretary for Ireland, in 1890 was promoted to adjutant-general, in 1891 to lieutenant-general, and in 1894 received the G.C.B. In 1898 he obtained the command of the First Army Corns and the Aldershot Garrison, and in 1899 became commanding general of the British forces in S. Africa, and later general officer com-manding in Natal. Owing to several severe reverses round Ladysmith he was superseded by Lerd Roberts, and after engaging in the expulsion of the Boers from Natal, returned to England in 1900. He became commander of the First Army Corps at Aldershot, but was retired in 1901 in consequence of an imprudent speech. Sev. unfortunate facts concerning his S. African leadership became public, and he left the army in 1906.

Buller, Sir Walter Lewry-Lawyer (1838-1906), a celebrated ornithologist, whose contributions to science form one of the chicf factors in his brilliant career, was bern in New Zea-land, and was educated at Wesley College, Auckland. Took a prominent place in the affairs of the Maoris, appointed gov. interpreter at Wellington in 1855. Created magistrate in 1862; came to England in 1871; summoned to the bar in 1874. Titles of F.R.S., C.M.G., K.C.M.G., and S.C.D. of Cambridge conferred on account of services to science.

Bullet, a solid projectile discharged from small-arms of all kinds, in opposition to the larger missiles used by the artillery. In the old smooth-bore muskets, accuracy of aim was spoiled by various difficulties, such as the pressure of the gas generated by the discharge, and the fact that the projcetile must always be smaller in

Lord Durham; in 1841 became secre-tary to the Board of Control; in 1846 was appointed judge-advocate-general, and in 1847 became chief poor law commissioner.

of the B. The smooth-bore musket had fired a heavy spherical lead shot. In William IV's reign the Brunswick percussion rifle was introduced into the British army, and for a while the percussion rifle was introduced into the British army, and for a while the Buller, Sir Redvers Henry (18391908), Eng. general, b. near Crediton,
Devonshire. In 1860 he served in that is to say, it had a projecting ring
China; in 1870 in the Red R. expedition; in 1874 in the Ashantee War;
and in 1878-9 in the Kaffir and Zuli
Eng. gunmaker, produced an expandcampaigns. In these last he specially ing B., fer which, twenty-one years
distinguished himself, and won the later, he received a reward of £1000
V.C. for the rescue of three comrades. from the gov. The ball was oval in
In 1881 he served in the Boer War as
chief of the staff to Sir Evelyn Wood; force of the discharge drove into the
in 1882 in the Egyptian campaign as
head of the intelligence dept., and in
force to expand and fill the grooves,
the staff in the The result of this expansion is to old form of B., slightly enlarged, was The result of this expansion is to prevent windage, and to communicate a twist to the B. which enables it to travel steadily. Greener's invention was never made practical use of, as the gov. objected to its complication Meanwhile, in France, Capt. Delvigne had also perfected a new form of rifle, with a similar kind of B., and this was introduced into the Fr. army. About 1849 a further step was made by Capt. Minié, a Frenchman, who in-vented a cylindro-conoidal (in the earlier patterns only conoidal) B. The plug was disearded in favour of a hemispherical iron cup, which served the same purpose. In 1851, the Minié rifle was introduced into the British army. The introduction in the Minié rifle of an elongated B. made tho use of the muzzle-loading rifle somewhat more easy, but the breech-loading rifle was soon in use. Most difficulties had now been overcome. The bering gave the B. the twist necessary to enable it to keep its course, the ex-pansion enabled it to grip the bore properly so that B. and bore had one axis. The use of the cylindral B. now made it possible to diminish the size of the bore, while retaining a heavy Thus came the introduction of B. Thus came the introduction of small-bere rifles, where the B. was made longer still. It was, of course, essential that the weight of the B. should not be diminished too much. A result of this lengthening was that rifles were made with a greater twist in the grooving. The B., to be of use, has to travel point foremost. It is kept in position by the rotation communicated to it from the barrel, and so any lengthening of the B. causes it to require greater rotation to keep it from drooping or deflecting. Further, to prevent deflection, some early Bs. were furnished with circular groeves. If they turned at all, the wind caught in these and returned them to their original direction. The Bs. for large bore ritles had been formed of lead, diameter than the bore of the gun. original direction. The Bs. for large This early caused the invention of the bore rifles had been formed of lead, system of rifling the bore, and hence slightly hardened, but this would be eame a revolution, also, in the form

rapid a rotation. Hence, the smallbore B. is generally covered with some
harder metal. No expansion of thie
ean take place, and so the B. is made
slightly larger in diameter than the
bore it will pass through. The dumdum, or expanding B., has the lead
exposed at the end, and so expande
when it strikes. Its use is now forbidden in civilised warfare.

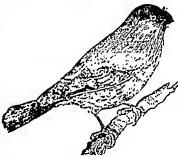
which the men stick into tho animal's
neck. Finally a matador, bearing a
vermilion flag, enters and salutes the
mayor. He lures the bull by means of
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Bulletin, a Fr. word which has been imported into the Eng. language, signifying a short authentic account of some passing event, intended for the information of the public. B. is derived from bulla, a scaled despatch. When kings and other persons of high rank are dangerously ill, daily. Bs. are issued by the physicians relative to the state of the patient. The

B. des Lois is the Fr. Statute Book. Combats of men with Bull-fight. bulls have for long been a favourite national sport with certain of the Latin races. They appear to have been common in Greece and Rome, and still exist in Portugal, France, Mexico, and especially in Spain, where they were abolished by Charles IV., hut re-introduced by Joseph Bonaparte. Bs. are now held in all the large towns of Spain, particularly in Madrid, either for personal profit or for charitable objects. The bulls The bulls are bred in Castilia and Andalusia, the former being preferred. The most famous fights are held in the Plaza de Toros at Madrid, a kind of open-air circus, surrounded by tiers of seats and boxes, and capable of accommodating 10,000 to 12,000 people. The entertainment begins with a processional entry of the combatants, in which the matadors lead, being followed by t dores, and Or attendants ær

saluting the mayor, the picadores, dressed in a picturesque national eostume, armed with lances. mounted on worn-out horses, take up their position in the centre of the arena. A bull is then let out, and the picadores attack it with their lanees. The horses are urged on by attendants | with sticks, who are dressed in blue and red, and when a horse is either wounded or throws its rlder, the banderilleros attract the attention of tho bull by waving their red and yellow capes while the picador makes his escape. The banderilleros save themselves by leaping over the barri-After the picadores have cades. fought for some time, they leave the ring and are succeeded by the banderilleros, who infuriate the bull by means of banderillas. These are gaily-

which the men stick into the alimat is neck. Finally a matador, bearing a naked sword and a 'muleta,' or vermilion flag, enters and salutes the mayor. He lures the bull by means of the red cloth, and as it blindly rushes at him, steps aside and stabs it between the left shoulder and the blade, usually killing it in a short time by means of this or some other stroke. As soon as the bull is dead, tho performance recommences with a fresh animal, and should the matador, as occasionally happens, be fatally gored by the bull, another matador takes his place. Eight or ten hulls are often killed in one day, and the slaughter of horses is very large and involves revolting cruelty. Successful matadors achieve immense popularity and are able to retire with large fortunes. The two most famous have been Rafael Guerra, or Guerrita, and Manuel Esparto. Bs. have lately been introduced into France, and are becoming increasingly popular.



BULLFINCH

Bullfinch, or *Pyrrhula vulgaris*, is a passeriform bird of the family Fringillide. and differs from other finebes in the thickness of its head and neck. It is a favourite cage bird.

Bullfrog, or Rana Catesbiana, a species of Ranidæ, is a N. Amorican frog which utters a beliowing noise, and thus obtains its name. It is aquatie, green in colour, and reaches

a length of seven inches.

tho bull by waving their red and yellow capes while the picador makes his escape. The banderilleros save themselves by leaping over the barricadors. After the picadores have fought for some time, they leave the ring and are succeeded by the banderilleros, who infuriate the bull by one cans to banderillas. These are gaily on the pools, but may also occur in fresh with broad, depressod heads, and are derilleros, who infuriate the bull by of no value as food. C. scorpius and the pools, but may also occur in fresh with broad, depressod heads, and are derilleros, who infuriate the bull by of no value as food. C. scorpius and the popular name of Cottude. The species musually found near sea-coasts in the pools, but may also occur in fresh with broad, depressod heads, and are derilleros, who infuriate the bull by of no value as food. C. scorpius and the common marine species coloured and ornamented barbed darts, about 2 ft. long, sometimes having fire-erackers attached to them

Bulli, in New South Wales, the was frequently injured by the dehas-Pass.

own hustrations, and was the list to siderable. In England the B. is comed print plants in colour. From his at the royal mint.

works may he quoted Flore parisienne, 1774: Herbier de la France. Dilyoed by savage people usually for ary (1783), and treatises on poisonous the purpose of causing rain. It conplants (1784), and mushrooms (1792) sists of a rectangular slat of wood He did much to populariso his science. From about 6 in. to 2 ft. long, and 3 in.

Rullidge the read of femily of the 2 in wide supergraded by some order.

Australia.

was born at Bremgarten, the son of a priest who, himself, later embraced the reformed faith. During his studies at Cologne he gained a first-hand knowledge of the Bible and an acquaintance with Luther's works. He studied for a time under Zwingh, whom in 1528 he accompanied to the Bern Conference. In 1529 he married an ex-nun, and was made pastor at Bremgarten, which city he gained to the Reformers. On the death of Zwingli at Cappel in 1531, he left Bremgarten and took refuge at Zurieh, where he became chief pastor and champion of the Protestants. Helretie Confession, puh. in 1566, was largely his work. See C. Pestalozzi's Leben, 1858, and R. Christopher's H. Bullinger, 1875.

Bullion, term denoting the precious metals of gold and silver in their refined condition, hefore they are coined or otherwise manufactured. Though this is the true sense of the word, it is often extended, in speaking of ex- who was attempting to guard the portation, to include the coined metal. Potomac line, were crushed by the also. The values of B. as a means of Confederate forces under Lee, reinexchange are too numerous to men-tion, as barter is a process which must Bulls and Bears. In the slang of the necessarily die out at the heginning of Stock Exchange 'Bulls' are men who

same in qua they do not age or use;

the coins have to he made incon-the coins have to he made incon-veniently small; they are capable of easily receiving and retaining an im-press. Since gold and silver are so universally used as a medium of com-universally used as a medium of com-merce it has a superson and the superson and the superson are superson. merce, it has of course been necessary to arrange that in all civilised nations! the B. should be made with a standard quantity of precious metal in proportion to its alloy. In earlier times this is somewhat ferocious as a house dog, was not so, and in the middle ages it but is gentle and affectionate to its will be remembered how commerce owner.

headquarters of the Bulli Mining ing of the coinage. Though, even now. Company; famed for glorious Bulli matters are not so arranged that equal Pass.

Bulliard, Pierre (c.1742-93), a hotanist, used to design and engrave his difference is so small as to he inconown illustrations, and was the first to siderable. In England the B. is coined

Bullidæ, the name of a family of to 2 in. wide, suspended hy one end to gastropod molluses of the genus a cord, the latter often heing pro-Euthyneura, which occur in both the living and the fossil state. The chief whirled rapidly ahout the head, and genera are Bulla and Acera. They the noise of the air against the slat are found at various depths of the produces a roaring or whizzing sound. Oceans of Europe, America, Asia, and Among some Australian tribes it is Among some Australian tribes it is thought to be employed for the pur-Bullinger, Heinrich (1504-75), Swiss, pose of frightening the women away reformer and Protestant theologian, from tribal councils or religious orgies, the females being told that it is the voice of the presiding god or demon. But in N. America it is, or was, used as an instrument of sympathetic magie, Its noise being supposed to represent that of the wind which accompanies rain, and it is employed to induce by mimicry the actual wind Itself. The Warali Indians believe it to he the voice of the Thunder-Bird, whilst by some other trihes, strangely enough. It is used to invoke fair weather. It is sometimes also sounded to warn initiated persons at a distance that certain rites are

about to be proceeded with.

Bull Run River, small riv. in Virginia, U.S.A., which has given its name to two hattles fought in the neighbourhood during the civil war: neignbourhood during the eivil war: (1) July 21, 1861, when the Northern troops, under M'Dowell, were utterly defeated by the Confederates under Beauregard. (2) August 29, 1862, when the Union forces under Pope,

civilisation. Gold and silver are the have nominally hought stock, but with no intention of paying, hoping to sell again at a profit hefore long.
Bears, on the contrary, are men who have sold stock which they do

> Bull-terrier, a cross-hreed of bulldog and terrier. The B. is a very strong, plucky dog, and a fearless fighter, with infinite determination. It It has short, smooth hair,

a good hreed, hnt may be reddish, hrown, or fawn. It weighs from 20 to 50 lbs., hnt some toy varieties have heen produced which weigh as little as 7 lbs. The tail is left uncropped, and should he carried in a straight line with the hack; the front legs firm and straight, and the jaw strong. White Bs. are permitted black markings on the nose, ear, and eye.

Bull Trout is a term applied to various species of Salmo, which are natives of N. Europe, and belong to the Salmonidæ, or family of trout, salmon, and charr. The name is frequently applied to S. eriox and S. cambricus, also known as the grey tront. S. trutta possesses this name as well as those of sea trout, salmon

Charles von (b. 1849), Chancellor of Bulrush is the name given to sev. Ger. empire, horn at Klein, Flottbeck, plants which grow in marshy ground Holstein; educated at Frankfort-on and bog Holstein; educated at Frankfort on and bog the Main and other schools; went Typha to the universities of Lausanne, sometin Lelpzig, and Berlin. Joined the and cat Prussian reciment of Royal Husspadix m which the howers form a sars and did military service as long black cylindrical mass, the lieutenant in the campaign of 1870. Yellow male flowers above and the Entered the diplomatic service in brown female helow. The perianth 1873, where he served under the role is represented by long hairs, there are of attaché in the foreign offices at onc to five monadelphous stamens, Berlin and Rome successively. He and the female flower has a single was then appointed secretary of legal control. The first in the control of the Berlin Congress but another B. Scirpus lacustris, and 1878. After this, held successively belongs to the Cyperaceæ, its stems came secretary of the Berlin Congress but another B., Scirpus lacustris, in 1878. After this, held successively belongs to the Cyperacee; its stems the positions of first secretary of the are used for making mats, haskets, embassy at Paris, first secretary of the and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats of chairs. Pennisdum emhassy of St. Petersburg, 1883; and the seats in 1900.

war, when in 1813 he took up arms were some, 1889. He has nico con-against France. He carned great dis-tributed a vol. of poems called Durch tinction at Gros Beeren, a victory Frost und Gluthen. Other works gained almost entirely by his general-, which have brought him into promin-ship, and at Dennewitz, where Na- ence are Dramaturgie des Schauspiels, poleon's advance on Berlin was 1884, which has run through sev. eds.,

which should preferably he white in checked. In 1815 he arrived too late to share in the battle at Ligny, but he played the chief part in the victory at Waterloo. He died at Königsherg. Bülow, Hans Guido von (1830-94),

Ger. pianist and composer, was born at Dresden, the son of Karl Eduard B., a noted author. He early began the study of music, at first as part of his general education, for he was intended general education, for he was intended for the legal profession. He studied under Wieck and Liszt, and soon de-cided to make music his life-study. For a time he visited Wagner to study conducting, but he soon came back to Liszt, whose daughter he married in 1857. In 1864 he hecame chief of the orchestra of the Theatre Royal at Munich and director of the Conservatorium. Here he organized Conservatorium. Here he organised and produced the works of Wagner with exceptional talent. In 1869 his reout, sewin, and phinok.

Bulmer, William (1757-1830), a printer of the 18th century, celewite divorced him and married brated for his production of the Wagner, hut this did not dim his Boydell Shakespeare, which consists enthusiasm for that writer's work. of nine vols. folio, with a vol. of engravings called The Shakespeare Gallery, 1803. Bewick, an intimate through England and America. He friend of B., illustrated the book. B. died at Cairo. B. was a pianist also printed other costly editions, such Goldsmith (1793-7, 3 vols. folio), and Goldsmith (1795, 4 to).

Bullow, Bernhard Henry Martin Charles von (b. 1849), Chancellor of Bulrush is the name given to sev.

in 1900.
anthor, dramatist, and poet, born at
Bülow, Friedrich Wilhelm (1755- Bremen, Appointed Ihrarian of the
1816), Count of Dennewitz and Bremen Library in 1878. Has written 1816). Count of Dennewitz and offence Library in 1818. Has whiten Prussian general, was horn at Falken-dramas, poems, and other works. His herr, and entered the army in 1768. dramas include Die Arbeiter, 1876; He had already had fair experience of Eine neue Well, 1886; and Der Verwar, when in 1813 he took up arms lorene Sohn, 1889. He has also conDramaturgie der Oper, and Shake-speare und der Naturalismus, 1893.

independent state.

Buluwayo, or Bulawayo, cap. of neeted with the Matabeleland, prov. of Rhodesia, S. was, in addition Africa. It stands on a table-land state for War hetween the Limpopo and Zambesi administration. rivs., 400 m. W. of Beira, the nearest member of par port. Originally it was the site of the He was the auti royal kraal of Lohengula, hy whose lather it was founded. During the Matahele wars of 1896, B. was suecessfully defended, and the town now contains a monument in memory of the colonists killed on that occasion.

Bulwar, Sir Henry Lytton Earle

Bulwer, Sir Henry Lytton Earle (1801-72), an Eng. diplomatist and author, was the elder brother of Lord Lytton. He was employed on diplomatic service at the Hague, Brussels, and Vienna, and in 1830 elected parl. representative of Wilton. He later sat for Coventry, and from 1835-37 represented Marylehone, in each case in the Liberal interest. In 1837 he became attached to the British embassy at Constantinopic, and his success here was such that in 1843 he was made minister plenipotentiary to the court at Madrid. Here he offended Narvaez, who secured his withdrawal on the accusation of complicity in certain plots. In 1849 he was sent to Washington, and in 1858 to Constantinople. In 1851 he was made stantinople. In 1851 he was made G.C.B., and in 1871 he became Baron Dalling. His works include France, Social, Literary, and Political, 1834; Historical Characters, 1868-70; and a

Life of Viscount Palmerston, 1870.
Bulwer, John, M.D. (fl. 1654), a physician, was the first to write, in Eng., on the methods of imparting knowledge to the deaf and dumb. Except that he was himself a teacher of the deaf and dumh, nothing is known of his private life. Chirologia (1644), or The Natural Language of the Hand, Philocophus, and Patho-

myotamia, are his chief works.

Bulwer, Wm. H., see DALLING, BARON.

Bulwer-Lytton, Sir Edward, see LYTTON.

Bumboat, a small hoat employed to carry provisions, etc., from land to vessels lying in port or near the shore. These hoats are generally managed hy women.

Bunbury, in Western Australia. a seaport and tn. in the eo. of Wellington; its famous harhour Koomhanah has breakwater constructed on a coral Chief exports are eoal, tin, timber, and agricultural produce.

Bunbury, Sir Henry Edward (1778-1860), seventh Bart., purchased in Bulti, or Baltistan, the northern 1797 a military command, after sev. part of Kashmir, India, once an yearsoftraining. He took a prominent part in the diplomatic service connected with the Napoleonie wars, and was, in addition, Under-Secretary of State for War under the Portland In 1830 he hecame member of parliament for Suffolk. He was the author of several works, of which the chief is the Narrative of Certain Passages in the Late War with France, 1852, dealing with the Peninsular War and the period which

preceded it. Bunbury, Henry William (1750-1811), Eng. caricaturist, horn at Mildenhall, Suffolk, was the son of Sir William B. He was educated at Westminster and Cambridge, and his faculty for caricature early showed itself. He never attempted political subjects, thus keeping himself on good terms with all parties, but his drawings became humorous famous as to give him rank with his contemporaries Rowlandson and Gillray. He was never forced to trust to his talent for his livelihood. Examples of his work are 'The Country Club' and 'The Barber's Shop.

Buncrana, a market tn. and watering-place of co. Donegal, Ireland, on Lough Swilly. There is some fishery and trade in agricultural produce, and the town is well situated.

about 1000.

Bundaberg, a port of Queensland, Australia, near the mouth of the R. Burnett, 270 m. N. of Brishane by rail. It has saw-mills, breweries, etc., and is the centre of a sugar-making

district. Pop. 5000. Bundelcund,or Bundelkhand, a dist. of Upper India lying hetween the rivs. Chambal and Jumna, including five provs.: Banda, Jalaun, Jhansi, Lalitpur, and Hamirpur, and a collection of native states known as the B. Agency. The dist. is rich in rivers, yet the streams are so unsuitable for irrigation that it has to he largely artificial. There are valuable diamond mines, particularly near Panna, and some minerals are found. Area 9851 square miles. Pop. (1901) 1,308,326. Bundesrath. This council, together

with the Reichstag, forms the present federal gov. in Germany since 1871. The B. consists of fifty-eight delegates chosen by the govs. of the different states for each session, whilst the Reichstag, or popular assembly, contains memhers chosen solely hy the people. The King of Prussia presides over both under the title of Emperor of Germany. The B. is the superior governing hody, and ean withhold measures passed by the Reichstag; on the other hand, a member of the B.

Reichstag.

Bundi, native state of India. agency of Rajputana. It is wild and crossed hy two ranges of hills. The R. Mej drains it, and there are no railways. Chief tn., Bundi. Area 2250 sq. m. Pop. about 200,000.

Bundoran, vil. and watering-place of co. Donegal, Ireland, on Donegal Bay, 4 m. S.W. of Ballyshannon. Pop. under 1000.

Bungalow (Anglo-Indian word from Bangla, Bengalese), a onenative storied house with a verandah, and a pyramidal roof, generally thatched. It is the kind of house in general use by Europeans in India. Dak Bs. are gov. erections for the use of travellers in the interior of India. The name is now often given in England and America to light erections for seaside and holiday use.

Bungay, a market tn. of Suffolk on the R. Waveney. It has two parish churches of interest architecturally, and large printing works, and malt trade. Pop. (1901) 3314. Bungener, Louis Félix (1814-74), a

Fr. Protestant theologian, was horn at Marseilles, of Ger. parentage, and taught there from 1843 till 1848. He pub. sev. works written as novels, hut each intended to defend some principle of Protestantism. Of these may be named: Un Sermon sous Louis XIV. (7th ed. 1881): Histoire du Concile de Trente (2nd ed. 1854): Trois Sermons sous Louis XV. (6th ed. 1902): Christ et le Siècle (1856); Rome et la Pièric (6th ed. 1860); Calvin, sa vie. English and German.

Bunion, an inflamed swelling of the Bursæ mucosæ, or synovial sacs, occurring most commonly over the metataroso-phalangeal joint of the first or fifth toe. This may be accompanied by corns or suppuration, and generally causes distortion of the joint. The most common cause of Bs. is pressure produced by hadly-fitting footgear, but the tendency may be hereditary. A cure may he effected by the removal of the cause of inflammation and treatment with soothing dressings, but in had cases a surgical operation may he necessary. The word may be derived from It. bugnone, a swelling which is probably of the same origin as Old Eng. bunny.

Bunium is a name sometimes used for a genus of umbelliferous plants which are now included in the Carum

buigne, modern bigne.

is not eligible for election in the | Europe found commonly in Britain. The tnherous roots have an aromatic sweet taste and are edible when boiled or roasted. Pigs which are allowed to feed on them get fat, as they contain much nutriment

Bunker's Hill, small hill in Boston, Mass., U.S.A., which gave its name to the hattle between the English and Americans which hegan the War of Independence, 1775. The Eng., under Howe, only succeeded in carrying the position at the third assault, and at enormous loss. The Americans, mostly hastily-levied volunteers, were

under Colonel Prescott.

Bunkum, mere speaking for the sake of the newspapers or any humbug. Phrase arose in 1820, when, in the United States Congress, the memher for Buncomhe, N. Carolina, rose to speak. He had apparently nothing to say, and memhers hegan to leave. He continued, telling the others they eould go also, but his electors expected a speech from him and he was only speaking for Buncombe.

Bunsen, Christian Charles Josias. Baron von (1791-1860), a noted Ger. scholar and diplomatist, horn at Korhach, in the principality of Waldeck. -tudied theology at Geneva. He then His studies at Marburg were chiefly on theology, but in 1809 he went to Gottingen University, where he gave much attention to philology. In 1813 he won the university prize essay with the treatise De jure Atheniensium Hereditario, and after a stay at Copenhagen for the study of Icelandie, he came to Berlin in 1815. Here he bear acres is with the historian to the commendation in the commendation in the commendation in the commendation in the commendation is the commendation in t the Prussian embassy at Rome. Before this, though, he had studied Persian and Arabic under Silvestre de Sacy, and had, in 1817, married Frances Waddington, by whom his Memoirs were later pub. In 1822 Friedrich Wilhelm II. visited Rome and was greatly pleased by the frankness and learning of the secretary. In 1821, therefore, on the retirement of Niehuhr, B. succeeded him as resident minister. During his stay at Rome, B.'s researches led him in many directions, hut chiefly to Egyptology. In 1838, having become involved in the

also meaning a swelling, and Old Fr. numerous works may be named: Die Basiliken des Christlichen Roms, 1843; Egyptens Stelle in der Wellgeschichte, 1844-57.

Bunsen, Robert Wilhelm (1811-99). and Conopodium genera. B. flexuo- Ger. chemist and physician, horn at sum, or Conopodium denudatum, is Güttingen, where he pursued his early the earth- or pig-nnt. a native of studies, afterwards completing them

at Paris, Berlin, and Vienna. In 1836 is in Germany, he became professor of chemistry at the Polytechnic Institute of Cassel. whence three years later he passed to Marburg. In 1852 he was made pro-fessor at Heidelberg University, and here be spent the rest of his life. He was one of the greatest teachers of chemistry, but rigidly abstained from theoretical discussion. Hence no school has risen under his name, in spite of the great number of his pupils bave made their who name chemists. His publications are extremely numerous, and his discoveries are valuable. The burner which bears his name is known by all, and his charcoal pile is little less famous. His researches on eacodyl, begun in 1837, cost him the use of one eye, and almost proved fatal. Even before this he had discovered the use of hydrated ferrie oxide as an antidote to arsenic. He was also the first to obtain magnesium in a metallic state. But the greatest of his achievements was the discovery, in company with his friend Kirchhoff, of the spectrum analysis, a discovery which has proved of inestimable value both to chemists and

estimable value both to enemists and astronomers. Among his works are: Enumeratio ae Descriptio Higgrametrorum, 1830; Gasometrische Methoden, 1857; and numerous pampillets.

Bunsen Burner, a burner invented by Robert Wilhelm B., of Heldelberg, when that university felt the need of some means of burning ordinary coalgas perfectly, so as to leave no sooty deposit on articles being heated. It applies the hlowplpe principle, mixing air with the gas. The lighting power is thus diminished, the heating

power increased, and combistion made complete.

Bunsen Gell, a voltaic cell which contains a plate of zine surrounded by sulphuric acid and a carbon plate surrounded by nitric acid, the two plates being separated by a porous partition of unglazed earthenware. It was invented in 1841 by R. W. von Bunsen, the Gorman chemist, who employed it to produce the electric arc. It is still employed in Germany for a variety of purposes, but has practically a produce the control of the control of

wheat, and wheat, and the shown as tuteta feters or T. tritici. The wheat attacked becomes bluey-green, and the grains are filled with black spores, which give an unpleasant odour and earn for the fungus the name of Stinking Smut.

to a fungus

Bunter (Ger. bunier sandslein, variegated sandstone), in geology, a series of rocks forming the lowest division of the Triassic system. It consists of variegated red sandstones and conless pleasure, as he believed the glomerates. Their principal exposure

is in Germany. They may be subdivided as follows: (1) Lower B., consisting of fine red sandstone, with a thickness of as much as 700 ft.; (2) Middle B., of coarse sandstone, with a thickness of 1000 ft.; (3) Upper B., of red and green marls, varying in thickness. In England it occurs chiefly in the Midlands. Few fossils have been found in English and German beds. but plant life is represented by ferns and conifers.

Bunyan

Bunting, or Emberica, is a genus of the family Fringillidæ, which comprises many well-known species. E. citrinella, the yellow B. or yellow hammer, is the commonest British species; others are E. nivalis, the

snow B., and E. cia, the meadow B. Bunting, a light, loosely-woven woollen stuff used for flags. Hence, collectively, flags—especially a ship's colours. Used also for bathing dresses. Drapes well, and is used for decora-

tions on festive occasions.

Bunting, Jabez (1779-1858), an Eng.

Wesleven minister was born at Man-

Wesleyan minister, was born at Manclaester, where he entered the ministry at the age of nineteen. He was four times president of the conference, and in 1835 was made president of the first Wesleyan theological college. For twenty years he was secretary to the Missionary Soelety. He may almost he considered the founder of the Wesleyan polity.

the Wesleyan polity.

Buntingford, a tn. of Hertfordshire.
12 m. N.E. of Hertford, and seat of
the Poor Law Union.

Bunyan, John (1628-88), author of the Pilgrim's Progress, was horn at Elstow, near Bedford. Memhers of his family, under the name Buingnon, lived in Bedfordshire as far back as 1199, whilst the grandfather of his own grandfather was a certain Thomas Bonyon (ft. 1542), a 'common brewer of heer' and a 'common haker of human bread.' His mother died in 1642, and soon after this he was drafted by alocal levy into the parl army. The war at an end. he returned to his marriage in 1649 with a religious wife:

This woman and I came together as poor as poor might be, not having so much household stuff as a dish or spoon betwirt us both.' She brought with her a book of her father's, entitled Plain Man's Pathway to Heaven, which exerted a powerful influence over her husband, as may be seen in his Life and Death of Mr. Badman, 1630. It was about this time that he underwent, like Blake and Cowper, many strange religious experiences. He had been very fond of ringing the bells of Elstow Church, hut was induced to forego this harmless pleasure, as he believed the steeple would fall on his head did he

arrested in a game of tip-cat hy a voice which threatened him with hell if he did not repent him of his wicked-Many long hours he spent in prayer, but it was a hard hattle hefore he could finally renounce his pet vice of dancing on the village green. In his Grace Abounding he vividly de-scribes the agony of his sufferings at this period. Dreadful hallucinations hanished sleep from him at nights. He hegan to think, for instance, that he could have no faith unless he pernot he saved because he was not a child of Israel. But the clouds vanished and an active life healed his morbid imaginings. In 1653 he joined a dissenting community, and two years later hegan to preach in neighremarkable production, considering that its author was the son of a tinker NINSEGNA.
and unlearned in syntax and spelling. Buonone that its author was the son of a tinker | NINSEGNA.

and unlearned in syntax and spelling.

It was one of a series of controversial writings against the followers of George Fox, the Quaker. In 1660 B. service of Francis II., Dnke of Modena, was confined to Bedford County Gaol became 'maestro di capella' of San as 'a common upholder of several Giovanni in Monti. Wrote many in-unlawful meetings,' and here he remained for twelve years. He spent his time writing and hegan his importal Pilgrim's Progress. After the Declaration of Indulgence he was released, and was chosen pastor to his old church, but when the Declaration of several control in the purpose of mooring ships. Moorning the purpose of mooring ships.

persist in this crime. One time he was 'Count von (1797-1865), Austrian diplomatist, was himself the son of a statesman. He was minister successively at Carlsruhe, Stuttgart, Turin, and St. Petershurg. After assisting at the Dresden Conference, he hecame ambassador at London in 1851. He later returned to Austria to control foreign affairs. He died at Vienna.

Buoy

Buonarroti, M. Angelo, see MICHAEL ANGELO.

Buonarroti, Michael Angelo, the Younger, see Angelo Buonarroti. Buonfede, Appiano (1716-93), It. formed miraeles, and that he would philosopher, was appointed to a professorship of theology at Naples in 1740. Later he joined the religious brotherhood of the Celestines, and hecame, in course of time, general of that order. His Della Restaurazione di ogni Filosofia ne' Secoli, 1789, one years later hegan to preach in neight di ogni Filosofia ne Secoli, 1789, one bouring villages. His first book, Some of many works, gives a good account Gospel Truths Opened, 1656, is a truly of 16th-century philosophy (Italian). Buoninsegna, see Duccio di Buo-

released, and was emosen pastor with the pull are his old church, but when the Declara-inz-houys are made of wood or iron, tion was repealed, ho was sent to the and are used in places where anchortown gaol for six months, hecause he ace is impossible or inconvenient. was a Nonconformist preacher. On the more important use of Bs., how regaining his freedom he took up his pastoral work once more, and continued it till his death on Snow existence of dangerous obstructions, Hill, Holhorn. He was buried in as rocks, shoals, sunken wrecks, etc. the gloomy graveyard of Bunhill Bs. may he differentiated by colour, Fields Whilst his Holy War, 1682, is shape, or the attachment of a signal-only inferior to Pilgrim's Progress as an allegory, the latter is, of course. Or flashing lights, etc. The following his masterpiece. Pub. in 1667 the second part in 1664), it was at once appreciated by the common people. Bs. showing a conical top above though it was some time before men of letters recognised the homely beauty of its hiblical language, its long of the conical should be kept on the starboard-branch shou and Vanity Fair, and above all the Bs., and mark the ends of middle-passion of its religious fervour grounds. In the above definition, Christian's pllgrimage from the City starboard-hand means the right side of Destruction to the Celestial City of the vessel in ascending a river or has brought comfort and joy to men estuary, or in going with the main of Destruction to the Celestial City of the vessel in ascending a river or has brought comfort and joy to menestuary, or in going with the main all the world over. Life by Froude. Stream of the flood of the tide on the Bunzlau, a th. of Prussian Silesia, coast. In Scotland it is established on the Bober, 27 m. from Liegnitz by that conical Bs. should be painted rail. It manufs, earthenware, woollen red, and can Bs. black; spherical Bs. opods, and linen goods, and has considerable trade in agric. produce.

Bunl-Shauentin Karl Fardinand

The vessel in ascending a river or in going with the main stream of the flood of the tide on the coast. In Scotland it is established that conical Bs. should be painted with horizontal white stripes throughout the United Kingson.

Bunl-Shauentin Karl Fardinand Buol-Shauenstein, Karl Ferdinand, whistles, or distinguishing structures

other than the foregoing are used for special positions. Bell-huoys are actuated by the undulating of the waves; lights are provided by compressed oil gas, though acetylene and electricity are sometimes used; whistling is effected by the provision of a hollow eylinder extending some 30 ft. downwards; the up and down motion of the B. produces an inhalation and expulsion of air from this chamber. and the whistle is blown in a fitful manner corresponding to the motion of the waves. Wreck Bs. are painted green, and bear the word 'wreck.'

Buoyaney, that property by which a hody tends to float in water. The pressure upwards on a floating body is equal to the weight of the hody, and that weight is equal to the weight of the water displaced by the immersed part. That is to say, if the floating hody were removed, the space occupied by the immersed part would be filled up by water, and there would still be equilibrium. If a ship has a certain draught line to which she may saiely he loaded, the measure of her B. may he taken as the additional weight required to bring the draught line on a level with the water.

Bupalus (fl. 540 B.C.), Gk. sculptor, with whom his hrother, Athenis, is always associated, belongs to the school of sculpture in Chios at a time when its history just ceases to he legendary. The hrothers never advanced to the representation of the nude: all their figures (carved in marble) were draped. B. did a figure of Tyche (Fortune) and also the Graces for the Temple of Nemesis in

Smyrna.

Bupalus is a genus of lepidopterous insects of the family Geometridæ, in which the wings are erect in repose and the larvæ bave ten legs. B. pinarius, the hordered white moth, is beautiful species found in the

locality of fir-trees.

Buphaga is a genus of hirds of the starling family, or Sturnide. B. Africana, the ox-pecker is generally seen in companies of seven or eight, attending a herd of buffaloes or

antelopes.

Bupleurum (Gk. βοῦς, οχ, πλευρὸν, side) is a genus of plants of the order Umbelliferæ, which are natives of temperate climates in most parts of the world, and are remarkable for The British their simple leaves. species are known by the name of hare's ear or buplever, and obtain the generic name from a supposition that they are injurious to cattle. rotundifolium, the throw-wax. thorow-wax, has perfoliate leaves. Buprestide is the name of a family

of coleopterous insects which have short antennæ and are very brightly Blackfi

coloured. Green is the most common colour, but hlue, red, gold, and copper are also frequent, and have a burnished appearance. They live on the trunks of trees, crawl slowly, but when on the wing fly rapidly.

Buquoy, or Bouquoy, Karl Bona-ventura de Longueval (1571-1621), field-marshal of 16th century, born at Arras, of French origin, he enlisted on the side of Austria, and took part in the campaigns of the Rhine during the years 1596-99. Maurice of Nassau defeated him near Nieuwpoort in 1600. Nothing daunted, however, B. laid siege to Ostend and took possession of 's Hertogenhosch. He was made commander of the imperial forces in Bohemia in 1618, and made a valiant and successful struggle against Bethlen Cabor, leader of the Hungarian troops and Bohemian emigrants, was wounded in the battle of the White Mountain, 1621, died in a new expedition at the siege of Neuhausal in

the same year. Bur, or Burr, a slight ridge of metal raised on edges of a line engraved by the hurin, rocker, or dry point. Usually removed by a scraper, as it retains too much ink in printing the plate, producing the effect of a smear. Sometimes left to produce a peculiar effect of its own. Seymour Haden and other etchers often keep it; so does Rembrandt. In mezzotint-engravings the whole effect comes from the bur.

Bur, or Burr, is the name given to a fruit which has developed a process like a hooked spine to aid it in its dis-tribution. The hook catehes in the fur of a passing animal, and is either carried away by it. or the fruit jerks off as the plant is released from the fur. A. Lappa, the burdock, is a

common example.

Buran, a very violent sandstorm and snowstorm occurring in Central Asia, or even in the Caucasus and on the outskirts of Siberia. The storm heralds itself in a peculiar manner, and comes on quite suddenly. The sky becomes inky black, and the atmosphere is choking, on account of the clouds of fine sand blown along by the wind, which tears along at a remarkable velocity. Sometimes the wind is so cutting that it hrings along Sometimes the in its train fine particles of partially frozen snow. There are two kinds of B., the kara-buran or black storm, and the sarik-buran or yellow storm. Burano, is. and tn. of N. Italy, 5 m. N.E. of Venice. Some fishing, and

important lace-making industry. Pop 7000. Burbage, James (d. 1597), one of the

most f times.

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financial help.

Burbage, Richard (1567-1619). a great Elizabethan actor, son of the above; in spite of his short and stout figure, played with immediate success the leading parts in most of Ben Jonson's dramas, whilst, from the poetical epitaph on him, it is known that he was famous for his impersonations of Hamlet, Lear, Othello, and, above all, Richard III. He acted at the Blackfriars and the Globe Theatre, the latter of which be built himself.

Burbot, or Eel-pout, the common name of Lota vulgaris, a species of the Gadidæ, or cod family, related to the whiting, haddock, and ling, and remarkable as being the only freshwater fish of its family. It is an elongated fish, with a broad head, large moutb, and well-developed barbel, and is found in rivers of Britain. L. maculosa is the American burbot.

Burchiello, It. poet of the 15th century. Date of birth uncertain, died at Rome in 1448; his real name, Domeni di Giovanni. A very original poct, who practised the trade of barber, and whose shop was the meeting-place of all the literary wits in Florence; bis shop was situated halfway down the Street di Callmala. Very little known about B,'s personal history. From internal evidence afforded by his pooms, it seems that he was imprisoned at one period in his life for some offence. However, he seems to have kept his friends, chief amongst when stonds II Don't Market have been his bayes have been his friends, chief amongst when stonds II Don't Market have been his friends his friends his friends have been his friends his friend whom stands II Doni. B. belongs to that class of poets called satirists, and bis verses are distinctly frank in their licence, but this was a characteristic of the times. His poems are sonnets, and belong to the comic hurlesque type. This type of poetry was very popular in the 15th century, and he had many imitators after his death who strove to write 'alla Burchiel-Different opinions as to the mcrit of B.'s poems; some held him to be a genius little short of Dante or Petrarch, whilst others considered him as merely 'a poetic buffoon.' Il Doni wrote a commentary on his poems, which is as obscure as the text of the opinions. poems themselves.

Burckhardt, John Lewis 1817), Swiss traveller, accepte offer of Sir Joseph Banks, a m

Arabic and over the contents of the

built the Globe with Shakespeare's far as Mahass, and after traversing the Nubian desert, succeeded, under the guise of a Syrian merchant, in making the pilgrimage to Mecca, by way of Jiddah. He also journeyed to Mt. Sinai, but was prevented by death joining the caravan which travelled towards Fezzan, whence he had intended to explore the sources of the Niger. The results of his travels were published in his journals.

Burdekin, a riv. of Qucensland, Australia, rises not far from the coast, to which it runs almost parallel till it

empties itself in Upstart Bay. Burden, capacity of a vessel, weight of cargo that she will carry, stated as

a certain number of tons.

Burden, a law term in Scotland, signifying any encumbrance or restriction on property of any kind. It must be secured legally, with a form stating the exact sum of money and the names of the persons concerned, given under the hand of the creditor. In the case of a B. on land, registra-tion in the Register of Sasines is also essential. See the Scottish Land Titles Acts, 1868 and 1874. essential.

Titles Acts, 1868 and 1874.
Burder, George (1752-1832), Congregationalist pastor, after being minister in turn of the Independent Church, Lancaster, 1778-83, and of the West Orchard Chapel, Coventry, 1783-1803, was preacher at Fetter Lane Chapel for the remainder of his life. Besides being honorary secretary to the London Missionary Society, he was editor of the Enymetical Management of the Chapel for the Enymetical Management of the Enymetrical Management of the Enymetry of the Enymetrical Management was editor of the Evangelical Magazine, and, above all, author of the remarkably popular Village Scrmons. Burdett, Sir Francis (1770-1844).

English politician, was the son of Francis B., and the grandson of Sir Robert B., Bart. He was educated at Westminster and Oxford, and afterwards travelled for some time in France and Switzerland. The French Revolution probably did much to mould his political opinions. He entered parliament in 1796, having three years carlier married the heiress of the banker Coutts, and became distinguished from the first as an advocate of freedom and of radical He frequently denounced the war with France, and was a strong

of the African Association, to explore gained it. He was arrested by order the hinterland of Africa. Disguising of the House for breach of privilege, himself as a Mussulman, he spent two years in Asia, during which he active to be published. His arrest took some quired so complete a mastery over time, since he barricaded his house to be published. His arrest took some time, since he barricaded his house and refused to surrender. He was, Koran, that be passed among the linewere, captured and taken to the natives themselves as a learned doctor of their law. After visiting Palmyra, Damaseus, and Lebanon, he went to Calro. In 1812 he went up the Nile as the passing of a reform bill and the

taking away of Catholic disabilities. He put forward reform schemes, and even suggested such reforms as adult male suffrage, equal electoral districts, vote by ballot, and annual parliaments. In 1820 he was again imprisoned for his denunciation of the Manchester massacres, and was fined £1000 and imprisoned for three months. He saw the Catholic Relief Bill passed in 1829, after he had made vain attempts to pass a similar measure in 1825, 1827, and 1828. After the passing of the Reform Act his active policy ceased, and he seemed satisfied with the victory which had been gained for freedom and reform. He continued to sit in parliament until with the Conservatives. He had left his former seat at Westminster, and at the time of his death represented

North Wiltshire.

Burdett, Sir Henry Charles (b. 1847),
son of Rev. Halford Burdett. M.A.,
substantial Surdett-Courts, William Lehman
and substantial Rathelland Burdett (b. 1851), born in
the U.S.A., bis parents the late Ellis
K.C.B., 1897, and K.C.V.O., 1900. At Bartlett of Plymonth, New England,
one time superintendent of the Queen
Hospital, Birmingham, and of the
Feaman's Hospital, Greenwich; many Countess Burdett-Coutts in 1881 and
publications on financial topics, in-assumed her name. Gradated at
eluding Burdett's Official Intelligence; Keble College, Oxford. Went ont to
of British, American, and Foreign
Securities (17 volz.); The National commissioner, 1877. Keenlyinterested
Bebt; Local Taxation in England and in philanthropical and social quesWalest: National Debts of the World: tions, and opened the Colombia Fish North Wiltshire. of British, American, and Foreign Securities (17 volz.); The National Debi: Local Taxation in England and Wales; National Debis of the World; Municipal, County, and Indian Indian Finance; Seventeen I ears of Securities; various articles on railways, water companies, hospitals, asylums, sanitation, nursing, old age pensions, and other philanthropical schemes con-

tributed by his able pen.
Burdett-Courts, Angela Georgina,
Baroness (1814-1906), daughter of Sir
Francis Burdett, was horn April 21.
1514. In 1837 she inherited almost all the great wealth of her grandfather, ir Thomas Contts, left by the will of his widow, the Duchess of St. Albans, once Henrietta Mellon, the actress. Many offers of marriage were made Burdock, or Arctium Lappa, is a her, but she resulved to remain single, common British species of Composite was several times elected as member of parliament for Westminster. In when the fruit is ripe, and assist in its 1871 she was created a piecress, and in dispersal. See Bur. 1872 she was presented with the freedom of the City of London, being the 1828-1905), physiologist, born at Jestmist woman to receive this privilege, mond, near Neweastle-on-Tyne. Was She died on Dec. 30, 1906, and was the second son of Richard Burdon, buried at Westminster Abbey. Her who took the additional name of philanthropie exertions were on such Sanderson on his marriage with Elizavas a vast scale that it is difficult to find beth, only daughter of Sir James any dept. of life they did not touch. Sanderson, first Baronet, M.P. B. was First may be mentioned her work for the Church. Besides taking in hand

the building and endowment of many churches and church-schools, she also endowed the three bishoprics of Cape Town, Adelaide, and British Columbia. When the Spitalfields silk trade began to fail, she estab. sewing-classes there, and she also organised the Shoeblacks' Brigade. Her love for her own sex caused her to do much for reformatories, and to secure great improvements in the education of girls at the national schools. In 1570 she established Columbia Fish Market at Bethnal Green, but this effort was unsneessful. Her interest in emigration was great, and she did much to aid in this work. In 1877 she organised the Turkish Compassionate Fund. Even folk so far distant as the Anstralian aborigines were helped by her, and the lower animals also received mitigation of their sufferings, for she greatly assisted the Society for

tions, and opened the Columbia Fish and Vegetable Market. Deeply interested in Irish questions, greatly assisted the Baroness Burdett-Conttain her plans for aiding the Irish fishermen. Was instrumental in passing the Hampstead Heath Act, which made Parliament Hill, as well as 300 acres, public recreation ground, 1885. Went out to S. Africa as Times cor respondent in 1900, when a royal commission of inquiry was held with regard to the state of the soldiers. other contributions Amongst literature, a vol. on the Russo-Turkish War appeared in print.

Many others of marriage was single, common Bridge species of the product of the state of the which is often found growing by roadher, but she resolved to remain small, which is often found growing in and to devote her vast wealth to the sides. It occurs also in Asia and on cause of philanthropy. In 1881, however, she married William Ashmead, the Continent, and is the single ever, she married William Ashmead, the Continent, and is the single ever, she married William Ashmead, the Continent, and is the single ever who assumed her name, and species of its genns. The leaves of the Postlett who assumed her name, and involnere are hooked and spinons of parliament for Westminster. In when the fruit is ripe, and assist in its

came to London as practising physician in 1853; and appointed medical registrar, then lecturer, at St. Mary's Hospital, London. In 1867 elected fellow of the Royal Society and Croonian lecturer. In 1870 devoted himself to scientific research. Appointments to London University and University College, London, in 1871. Invited to Oxford, degrees of M.A., D.M., were bestowed on him. Initiator of new English school of experimental work in pathological and physiological research. Especially interested in functions of living tissues. Created baronet in 1899.

Burdur, in Asia Minor, a tn. which is situated in Turkey Minor, and is 65 m. distant from Adalia on the N.N.W. side.

Burdwan, the name of a tn. and dist. of Bengal, British India. The tn. is on the E. Indian Railway, 67 m. N.W. of Calentta. The dist., which lies along the Hugli R. (area 2689 sq. m.), has indigo and iron works, and a thriving silk industry. Pop. (1901) 35,022.

Burdy, Samuel, author, 18th eentury; curate first at Ardglass, 1783; promoted to Kilclief, 1800. His Life of Skelton (1792) is one of Ireland's literary treasures. Amongst other allodial poems, he wrote Ardglass, or the Burga

Ruined Castles, 1802.

Burs, in Norfolk, Eng. riv., 50 m. long, joining the Yare at Yarmouth. Bureau (Fr. bureau, coarse cloth used as a covering) denotes a 'desk,' or writing-table. By metonymy the meaning is transferred 'coarse. meaning is transferred from the desk to the business office or dept. of gov., and further to any group of officials. Silk and cloth-making industries. In the word B. is used particularly is a picturesque tn., and its castle was to mean a gov. dept., especially in the seat in which Pestalozzi set up his France. In the U.S.A. B. means a school, 1798-1804. Pop. (1900) 8404. subdivision of a great executive dept., e.g. the Bureau of Statistics, a dept. of the Treasury Dept.

Bureaucracy, a term signifying gov. by depts., each ruled over by its separate chief, as opposed to gov. by ministers, owing a collective or assoeiated responsibility to the people, and hence the word is often loosely used to mean officialism, red-tapeism.

Burette, an apparatus used in practical chemistry for delivering measured quantities of a liquid. It consists of a graduated cylindrical tube fitted with a stop-cock. A small glass now with a fine horizontal line engraved with a fine horizontal line engraved with a fine horizontal line engraved with may be used at the surface in the movement of the top of the column , class (918 A.D.). with greater accuracy.

Burford, a tn. on the Windrush, in was the sc the Woodstock div. of Oxfordshire, 1764 he England. Historical interest attaches Halle as

to the university of Edinburgh in itself to Burford Priory, and also to 1847, took his M.D. degree in 1851; the place itself, as the seene of the came to London as practising physician in 1853; and appointed medical Cuthred of Wessex (752 A.D.). Pop. under 2000.

Burg, a tn. of Saxony, Germany, 15 m. N.E. of Magdeburg by rail. It has important manufs. of cloth and hoots. Its prosperity is largely due to the Fr. and Walloonimmigrants who came after the ediet of Nantes. Pop. (1900)

Burgage Holding and Tenure. tenure denotes the particular feudal service or tenure of houses or tenements in ancient eitics or boroughs. The incidents of this tenure, which prevailed in Normandy as well as in England, vary according to the particular customs of each borough (q.v. and Burgess). It is generally considered to be a species of socage tenure, as it was usually held either at a pecuniary rent or for services having no relation to military service. The present importance of the tenure is mainly in regard to the borough franchise. B. holding is one of the franchise. B. holding is one of the forms of feudal tenure in Scotland, and is that by which hurghs-royal (see Burghs) hold of the crown the lands contained in their charters of crection. Property held on this tenure is at the present day practically all

Burgas, a port of Eastern Rumelia, Bulgaria, on the Gulf of Burgas, in the Black Sea. It has a considerable transit trade, and large exports of agrie, produce, and also of clay for pipes and pottery. Pop. 12,846.
Burgdorf (Fr. Berthoud), a tn. in the

canton of Bern, Switzerland, on the R. Emme, 14 m. N.E. of Bern. It has silk and cloth making industries. It is a picturesque tn., and its eastle was the seat in which Pestalozzi set up his

Burgee, Eastern term signifying 'of a tn. or castle.' The dynasty of Cir-cassian Memlooks (slaves), also called

dynasty of Burgee.

Burger is the German synonym for freeman.' Most of the men who in-habited Germania at the time of Tacitus were freemen. Each freeman carried arms, had slaves, and usnally possessed land. The freemen attended the assemblies of the vil., hundred, and tribe. Charlemagne (800 - 807 A.D.) excluded the common freemen from the national diets, and limited their rights by enforcing arduous military service, etc. Henry the Fowler, King of Saxony, did much to advance the interests of the burgher

Bürger, Gottfried August (1748-94), In of

bnt

he early gave up theology for juris-prindence. As he here led a life of dissipation, his grandfather, who was educating him, recalled him, but allowed him to pass into Göttingen University as a law student in 1768. His friendship with men of literary tastes saved him from his evil habits. Stimulated by his readings of Shake-speare and Percy's Reliques, he pub. his first poems in the Musenalmanach, of which he himself became editor in of which he himset occame enter in 1778. He was later appointed 'amtmann,' or dist magistrate, of Altengleichen. As a ballad writer, his popularity spread far and wide. Such ballads as Lenore (1773), Der wilde Jäper, and Das Lied vom braven Manne are almost unequalled for dramatic intensity, virility of style, and atmospheric suggestiveness. His three marriages were all unhappy. three marriages were all unhappy. During his first wife's lifetime he had a child by her sister, the 'Molly' of his poems, whom afterwards he married. He divorced his third wife in 1792. Monetary embarrassment due to speculations and ill-health seem not altogether unnatural at the close of his unhappy life, yet his sonnets and elegies prove him a lover of the beautiful, and his generosity and kindliness of heart pass unchallenged.
Burgers, Thomas François (1834-

\$1), president of the Transvaal, an inhab. of Cape Colony, and minister of the Dutch Reformed Church. Elected president by the Boers, 1872, in a most critical period of the history of the Transvaal. Kruger systematically opposed B.'s policy, with the result that the Boers refused to pay taxes, and entered into warfare with Secocoeni, a native chief. Transvaal was also menaced by the Zulus. At this crisis England appointed Sir Theophilus Shepstone to inquire into matters; B. was compelled to resign, and the annexation of the Transvaal was formally declared in 1877.

Burgess (Low Lat. burgensis, a citizen; Fr. bourg, city) formerly meant simply an inhabitant of a bor. or a leading craftsman in a guild be-longing to a bor. Gradually the term B. came to be applied to a freeman of a bor. possessing a tenement in a

In 1264 Simo:

writs for a summoned fo

shire, thus eliminating the barrier which had hitherto kept them apart. From this union spring the bulk of parliamentary Bs. or towns not being our national liberties. The Bs. or royal Bs. but sending representatives of bors. attended parto parliament, e.g. Falkirk, Leith,

liament regularly from the time of the Model Parliament, 1295. The creation in 1835 of the 'municipal corporation 'as a unit of self-government included that of a uniform qualification nchise. That as the old B.

the same as, b extensive with franchise. The

enrolment on the D. 1011 as a rate-paying occupier of a house or other building in the bor, or within 7 m. of it. Women may be Bs., and are now also eligible for corporate office. Where the bor. is a city, the Bs. are called 'citizens.' Bs., together with the mayor and aldermen, acting by a council elected by the general body of qualified corporators, form the governing body of a municipal corporation. See also Burgh.

Burgess, John Bagnold (1829-97), a British painter, born in London. He studied in the Royal Academy, and later lived for some years in Spain, whence he chose the greater part of his subjects. Made A.R.A. in 1877. Among his best known pictures are:
'Bravo Toro,' 1865; 'Stolen by
Gypsies,' 1868: 'Visit to the Nursery,'
1870; 'Licensing Beggars in Spain,' 1877.

Burgess Hill, a tn. in Sussex, England, which lies 8 m. N. of Brighton.
Burgh corresponds to the Eng.
borough.' Means a Scottish town possessing incorporation and a local (generally petty) jurisdiction. Scotch Bs. are of four kinds: (a) Bs. of Barony: Corporations composed of the inhab. of defined lands within a barony and municipally governed by magistrates, whose election is in the hands either of the baron of the dist. or the inhab. themselves. (b) Free Bs.: Formerly Bs. of barony, enfranchised by erown charter with trading rights and subject to the same burdens as royal Bs. Practically all present Bs. as well as those that originally gained their charters are free Bs. now, as a result of the gradual suppression of commercial monopoly. (c) Bs. of Regality: Enfranchised Bs. of spiritual or temporal baronies, which, from the enjoyment of regal in t or oxclusive criminal jurisdiction within their own tracts of ground, the trealm or Commons in parliament were called regalities. (d) Royal Bs.:

orate bodies owing their exist-constitution, and privileges to royal charter, either expressly zens from each city and two Bs. from conferred or presumed to have been each bor to sit with the knights of the granted. Formerly only royal Bs. could send representatives to parliament, but since 1832 there have been Hamilton. for Scotland extends the meaning of B. and defines it to mean all Bs. and populous places whose houndaries have heen fixed. The act further pro-vides that the sheriff may, on the representation of seven or more householders, fix the houndaries, thereby constitute a B. for purposes of local gov. The jurisdiction of B. magistrates is practically restricted to

and summary ejections.

Burgh, Hubert de (d. 1243), most famous of an English noble family of the Middle Ages. Served Richard Cœur-de-Lion, then John, siding with

polico offenees, payment of B. dues,

speare's account (King John) is un-authentic. Consult Stubbs' Con-stitutional History of England, vol. ii., Con-1896.

Burghersdorp, a tn. of Cape Colony, near hanks of Stormherg Spruit, on railway to Aliwal North, ahout 39 m. from it. Important market. Was in Boer hands early in S. African War. Pop. over 2000.

Burghley, William Cecil, see BUR-

LEIGH. Burgin, George B. (b. 1856), author, secretary of Author's Club, 1905-8; joint hon. sec. of New Vagabond Club; writer of many hooks, amongst which may be mentioned: His Lordship and Others, 1894; The Judge of the Four Corners, 1896; Old Man's Marriage, 1897; The Bread of Tears, 1899. Later works are: The Devil's Due, 1905;

Dickie Dilver, 1912. Burgkmair, Hans (1473-1531), Ger. painter and wood-engraver, was a friend of Albert Dürer, and father-inlaw to Holbein the elder. His renown rests on his woodcuts—nearly 700 in all-which are truly remarkable for their faithful presentation of eonhis engravings for 'The Triumpa or Maximilian,' and a Ger. translation of Petrareh's 'Fortune.' A portrait of himself and wife may be seen in Vienna, whilst the galleries of Munieh, Parkin and Augsherg, his native place.

The General Police Act with intent to commit a felony. The laws on the subject are regulated by an Act of 1861. Various definitions are required to make the matter clear. Breaking may he either hy forcing open a closed window, door, etc., by some necessary aperture such as a chimney, or hy collusion with servant or inmate of the house. may be hefore the felony, to seeure entrance, or after it, to seeure escape. For entry it is sufficient that the hand or arm should he inserted. A dwelling-house is any permanent building in which the owner or some tenant which the owner or some tenant sleeps. Any building or outhouse forms part of the dwelling house only if it he connected with the same either directly or by an enclosed passage. Night is defined as the period between 9 p.m. and 6 a.m. Fr. flect, 1217. About 1221, with The punishment for B. 15 penal services. Langton, Hubert became regent for tude for life, or any period not less Henry III. After rising to great than three years' penal service, or two years' imprisonment. If the offence be committed by day, or in some place other than a dwelling . house, it is not B., hut housebreaking. In Scotland, all eases fall under the law of househreaking, and the name 'B.' is not used. In the United States, on the contrary, B. is made to cover many cases of househreaking, and is never punished by penal servitude for life.

Burgos

Bürglen, a Swiss vil. in the canton of Uri, is the reputed hp. of William Tell. Pop. 1478.

Burgomaster, title of chief magistrate of a city. It corresponds to the Eng. 'mayor' and Scotch' 'provest.'
Burgon, John William (1813-88),

Eng. divinc. His hp. was Smyrna, and his father was a Turkish mer-His mother was a Greck. He was educated at Worcester College. Oxford, which he entered in 1841, and Which Woman, 1907; The Trickster, where he gained an Oriel fellowship. 1909: The Belle of Santiago, 1911; and His hrother in law, John Henry Rose. where he gained an Oriel fellowship. had a decided influence upon him. He was made vicar of St. Mary's, due not a little to some attention he had drawn hy an attack upon Essays and Reviews. A proposal to institute a fresh lectionary for the Anglican Church aroused his strenuous opposition, which was expressed in the Quarterly Review. In 1876 he was temporary life, and for their dramatic Quarterly Review. In 1876 he was strength. Especially noteworthy are appointed dean of Chichester. Under his engravings for 'The Triumph of the title of Twelve Good Men he pub. his hiographical essays on H. L. Mansell and others. He died on August 4.

himself and wife may be seen in Vienna, whilst the galleries of Munich, Berlin, and Augsherg, his native place: possess examples of his work.

Burglary (through old Fr. from Latburgi lairocinium, known in old Eng. law as hamsocna), in Eng. common law, is defined as the breaking and entering a dwelling-house by night,

Ebro traverses the prov., but is not navigable, while the Douro, equally valueless, flows through the sonthern The temperature varies considerahly, the average being 61° F. Only in the valleys is agriculture of any use owing to a paneity of rain, bnt live-stock are reared with great success. Sheep are the prin, animals reared. There are minor deposits of salt, coal, and china-clay, and though the industries embrace pottery, stonequarrying, tanning, and linen and cotton manufs., they are in an undeveloped state. A poor system of developed state. A poor system of mission in 1198, and two years later rail communication explains this served in the Mediterranean. In 1809 backward state of things. The cap. of the was raised to a captain under the prov. is Burgos, the only th. of any wellesley at the Douro, and his importance. Its pop. is 30,167, and genius, exhibited in the skill of his it is to he classed among it is to he classed among the wretched parts of the con population to the more provs, of the Basque and is encouraged, if not almost enforced, by the miserable educational opportunities and the widely scattered Later he served with distinction at nature of the different hamlets in the prov. Hence the pop. has no significant increase. The th. is full of anti-field-marshal three years later, and iffeld-marshal three years later. dral is a splendid specimen of Gothic architecture, and is constructed of white limestone. The town wears a

picturesque appearance, and has manufs. of leather and paper goods. Pop. of prov. (1909) 335, 828.

Burgoyne, John (1722-92), English general. He entered the army at an early age, and was also at an early age compelled to sell ont in order to pay his debts. His youth was further distinguished by his runaway mar-riage with the daughter of the Earl of Derhy. He spent the years following the selling of his commission abroad, but was, by the influence of his father-in-law, restored to his rank in the army in 1758. He became the first commander of light infantry in the British army in 1759. He became an M.P. in 1761, and was made a hrigadier-general in the following year. At the close of the Seven Years' War he devoted his time to politics and the drema, his first play being produced in 1775. In that year, on the outbreak of hostilities with the American colonists, be was appointed the selling of his commission abroad, American colonists, be was appointed

of the Cantahrians are in the north- but when B. returned he demanded eastern extremity. In the E. is but did not get a trial. He was de-Cerro de San Millan, 6995 ft. The prived of all his appointments, but was restored to them in 1782. retired, however, practically into private life, and occupied his time with dramatie work. His most popular work. The Heiress, appeared in In 1808 his poetical and 1786. dramatie works were published.

Burgundy

Burgoyne, Sir John Fox, Bart. (1782-1871), Eng. field-marshal. He was a natural son of John B., an Eng. general and dramatist, and Susan Caulfield, an opera singer. His education was obtained at Eton and Woolwich. He obtained his commission in 1798, and two years later

ings, linen, gloves; cotton printing and wool-weaving are also carried on. Pop. 7040.

Burgsteinfurt, a tn. in prov. of Westphalia, Prussia, 173 m. N.W. of Munster, on the Aa. Pop. (1900) 5208. Burguillos, a tn. in the prov. of

Badajoz, Spain. Pop. over 6000.
Burgundii, The, were a tribe of Northern Germany, who early establishemselves about the source of the Mein. Although they took part in the great barbaric invasion of Rome in 406, they were often loyal allies of the Roms, against the Huns and Franks. In 475 they occupied the Rhone valley. They had adopted Christianity before Clotbair, the Frankish king, finally put an end to their kingdom

in 534. Burgundy, formerly an independent monarchy, at present a province of France. Its earliest inhab, were a Ger. tribe who have extended their settlement from the banks of the Oder and Vistula to the Rbine and Neckar. A defeat by the Huns, followed by the ebaos resulting from american colonists, he was appointed the decay of the Rom. empire, saw to the command of a division, and them holding sway over the whole made a fatal attempt to attack the of the Rhone valley. They accepted colonists from Canada. He was surrounded at Saratoga hy General Christianity later, and in 534 were conquered by the Franks. In 832 Gates and the American army, and forced to surrender with 3500 men. Indignation in England was great, a later absorption of the prov. by the the decay of the Rom. empire, saw

and lack of bitterness. It is used in customs of many lands and ages. medicine for plasters, and acts as a mild irritant.

Europe.—Palæolithic hurials are seldom encountered in Europe, and

Tapti. Tapti. Its trade is declining, though it still produces manufs. in cotton, silk, and brocade. For the last named of these goods B. formerly enjoyed some reputation. The tn. is of Molanmedan foundation, which took place in A.D. 1400. Pop. (1901) 33.343. Burial, Customs and Laws of. From the earliest times definite customs

and manners have erystallised around the act of human sepulture, and in numerous instances these bear a striking similarity to one another, although widely separated by circumstances of time and geography. It is fortal modern, bury their dead in the fortal posture, that is with knees drawn up to the chin, and placed upright in the grave dug to receive the body. Primitive man regards the carth as his mother, and deems it only fitting that his remains should be which he was originally supposed to have occupied in her womb. Early

Germans saw its gradual decomposi- prehistorie Egypt, where bitumen was tion into a number of small states, smeared over the remains—the first all of which were finally taken over attempt at mummification. In the all of which were finally taken over attempt at munmification. In the by France. It now comprises the evolution of burial customs we can depts of Ain, Côte d'Or, Saône-et- distinctly trace the various steps as Loire, and Yonne, and isworld-famous follow: Eating of dead kindred, in for its wines. Its prin. this are Dijon order to partake of their virtues, Macon, Autun, Châlon-sur-Saône, and Bourg.

Burgundy Pitch, a yellowish-white pounded bones or ashes caten by kinsmen, water in which body was placed drunk by kinsmen, fœtal resin prepared from common frankincense, the exudation of the Norway spruce-fir (Abies excelsa), by melting inhumation in cists or stone coffins, it in hot water and separating it from the greater part of the oil which it that these methods came into use contains. B. P. is hard and brittle, and can be distinguished from its but that this is an ideal course of their many imitations by its pleasant smell evolution culled from the mortuary many imitations by its pleasant smell evolution culled from the mortuary

mild irritant.

Burgundy Wines, the fine and consisted chiefly in placing the reworld-famous wines produced from mains in caves or similar retreats. It is very unlikely that any fixed bathed slopes of the low hills of Côtector that are successful to the department which, together remains until at least later Paleowith Yonne and Saône-et-Loire, correlithic times. In Neolithic times feetal responds to the old district of Burgundy. Beaume is the centre of the district and of the trade. The most obtained in stone centres cremation and district and of the trade. The most obtained in stone cists and urns precelebrated red wines are Romanée, valled. In later Neolithic times burial Chambertin. Richebourg. and Closs in barrows or mounds obtained. The celebrated red wines are Romanée, valled. In later Neolithic times buriai Chambertin, Richebourg, and Clos; in barrows or mounds obtained. The Vongeot, while the finest white Burshape of these varied with race, the gundles are those of Mont Rachat and long-skulled aborigines who preceded Chablis. The celebrated Hospice de Beaume derives its revenues from some of these vineyards.

Burhanpur, a tn. in the dist. of round barrows. Mauy of these bar-Nimar, India. It is situated on the rows are honeycomhed with graves, Tapti. Its trade is declining, though logist, who usually discovers therein tools and weapons of the Bronzc period. It was customary for the early races of Europe, and indeed for primitive races all over the globe, to inter with their dead such articles as they considered would be necessary for their comfort in the world of shadows, and it is fortunate for modern arehæology that primitive graves have yielded these in abundance. Graves of the Bronze Age all over Europe hear a great resemblance to one another. In Greece and Rome stances of time and geography. It is to one another. In Greece and nome well known, for example, that many cremation was resorted to. Burials primitive peoples, both prehistoric of the early Christian period were and modern, bury their dead in the usually made in catacombs, such as those at Rome, where the bodies were drawn up to the chin, and placed placed in niches in the walls, and their resting-places decorated with paint-ings and sculpture. Outside of the Roman sphere of influence burial in Europe retained its primitive characreturned to her in the position in ter, the offering of objects to the manes of the deceased being almost universal. With the introduction of burial customs in many countries bear threat customs in the custom of the custom of the custom of the custom after inhumation was resorted to after a rude effort at preservation health of the soul, and this obtained of the corpse was attempted, as in throughout the middle ages, and to

that universally the practice of sepulture was regarded as perhaps the fittest way of preventing the spirit of the dead from tormenting or annoying the living, and the massive cenotaph and the stake driven through the breast of the criminal arc equally eloquent of this desire. Propitiation of the manes of the deceased is seen in Europe in the custom which until recently obtained in Northumberland of sacrificing domestic animals prior to the burial of the dead, and even a trace of human sacrifice may even a trace of human sacrifice may he preserved in the eustom at Highland funerals of the friends of the dead person fighting until blood was drawn-an example of the substitution of the part for the whole. Even the practice of the eating of dead kindred is typified all over Britain by the revolting custom of 'sin-eating, in which a paid person devours a piece of bread and cheese or a cake and drinks a mug of ale over the coffined body of the dead. Until the beginning of last century the burial of a gipsy chief was often accompanied by the sacrifice of his horse, eithor as a propitiation to his spirit, or because it was regarded as essential to his comfort in the next world. Asia.—Burial in early Palestine

appears to have been effected in caves, and similar places where the corpse would not be readily got at hy beasts of prey. In Mohammedan countries inhumation in cemeteries is common, and the turban cut in stone, the symbol of the Moslem faith, is usually found upon the graves. Burial is earried out in much the same manner as in European countries, except that it is accompanied by the ritual of the Mohammedan faith, which consists for the most part of following the dead to the graveside and there hewailing his demise and reciting his good qualities. In India the Parsee caste expose the dead on the summits of towers, where they are devoured by hirds of prey. The splendid tombs of Hindustan are dequent witnesses of the manner of disposing of the dead which obtains among those of the Brahman faith.

ls constructe various apartments, and a paper image of the dead is placed inside it. with paper models of food and all necessaries. The deceased is afterwards worshipped by his children. In China mourning materials are

In China, wh the national

somo extent is still looked upon as and in Japan, Burmah, Korea, and desirable. There is very little doubt the Mongolian peninsulas consist of burial according to the rites of eeremonial Buddhism.

America .- In America many of the customs alluded to as prevalent in prehistoric times obtain. Thus interment in mounds and stone cists or caves is frequent, but tribal custom often dictates methods of sepulture which are strictly adhered to. Thus the Mohawks formerly made a large round hole in which the hody was placed in a squatting posture, after which it was covered with timber and Some Carolina tribes placed carth. the corpso on a canc hurdle and de-posited it in an outhouse for a day. It was then wrapped in cane matting or rushes and deposited in a grave, logs or stone slahs being placed over it so that the earth might not fall on the body. The Creeks and Seminoles of Florida generally buried their dead in a circular pit about four feet deep, the corpse with a blanket or cloth wrapped about it being placed in a sitting posture, the legs bent under and tied together. It seems to have heen prevalent in the N.W., as well as in the E. and S.E., to remove the flesh by previous burial or otherwise, and then to tlo the hones together in hundles and hury them in communal plts. The body was usually placed in a horizontal position on its back. Wooden vaults are also sometimes found, as are dome-shaped stone Sometimes clay was spread vaults. over the corpse and fire applied before burial. Sometimes even mummifi-cation was practised. Aerial sepulture in trees and upon raised platforms, burial in lodges, in cances and urns, arcother American modes of disposing of the dead. In S. America very similar methods are in vogue, the habit of scraping the hones and hanging them up in baskets in trees or at the doors of lodges being very common. Mummification was practised in ancient Peru.

Africa.—The functory customs of

Egypt are too well known to require lengthy description. There were three modes of mummification, undertaken by a special caste who were abhorrent to the rest of the population, namely,

mummy was placed in a departed about ten feet high by rock-cuttomb, surrounded with paint-twelve feet deep. This contains lings representing objects supposed to ings representing objects supposed to be useful to it, and ushobtiu figurines which represented servants to attend to its requirements in Amenti or Hades. The modern tribes of the Soudan practise burial after the Mohamme-dan fashion, whilst those of Central Africa, if caunibals, often devour the white. Throughout Asia customs of Africa, if caunibals, often devour the sepulture differ but in minor details, corpse or a portion of it, and if noncannibal bury it, often with many | strange ceremonies. Some tribes, bowever, merely take the hody into the bush or forest and leave it to be

devoured by wild animals.

In Polynesia until recently it was customary to devour n dead relative in order that his virtues might enter the bodies of his descendants. Among l the Esquimaux burial by canoe is often practised: and in Australia the nomad tribes either leave the body to rot, or bury it in the ordinary manner.

Burian, Stephen, Baron of Rajecz (b. 1851), Hungarian statesman, was imperial finance minister for Austria-Hungary, and, in 1904, governor of Bosnia-Herzegovina. For the eight years previous he had been minister to Greece. He has made a special

study of the Balkan question. Buriats, a race of Mongolians Inhabiting the neighbourhood of Lake Baikal. They resomble the Chinese in their small slanting eyes and their pigtails. Their religion is Buddhism, though thore are Shamanists and Christians among them. Contact with the Russians took place first in the 16th century, from which people they learned farming and irrigation, and in which occupations they excel the Russians themselves.

they excet the Russians themselves.
Buridan, Jean (c. 1297-c. 1358), Fr.
philosopher. A native of Artols,
he was educated by William of
Occam at Paris. Later he became
professor of philosophy in the university of that town. He became its rector in 1327. Under an ordinance of Louis XI, the reading of his works was prohibited. His philosophy is based upon the doctrines of his teacher Oceam. His ideas in connection with free will, contained in his commonts on Aristotle's Ethics,

bear a resemblance to Loeke's. Burigny, Jean L'Evesque de (1692-1785), man of letters, is remarkable for his extraordinary versatility and the volume of his publications, as well and two years later came up to London biographies of Grotius

Constantinople, 1749.

Buriti Palm, or Mauritia vinifera, is a handsome species of Palmacere found in S. America, especially in Brazil. It is one of the loftiest of palms, growing to a height of 100 to 120 ft., and it yields many useful products. Among these are a pulp from the fruits which is converted into a sweetmeat, a juice which makes a

date of his birth is hidden in some obscurity although it is most probable that he was born on Jan. 12, 1729. His hirthplace was Dublin, where his father was at this time practising as an attorney. His father was a Protestant a faith in which Edmund himself was brought up: but his mother belonged to the Roman together Catholic faith, and this, with the fact that his earliest schoolmaster belonged to the Society of Friends, gave him the foundations of the toleration which he later applied In 1743 he to religious questions. entered Trinity College, Dublin, where he studied hard but in a desultory fashion, making himself, however, well acquainted with the Latin



EDMUND BURKE

as for his erudition. Among his works don to study law. His health at this and time was weak, and he spent a great Erasmus, 1750 and 1757; a treatise on deal of his time travelling, and of papal authority, 1720; and a Histoire; this period of his life we know little, des Révolutions de l'Empire de since there are no letters of his to bo found which deal with it. In fact we find him later writing 'to atono' for his neglect of his chief correspondent, Richard Shackleton, the son of his old schoolmaster. In 1756 he seems to have been living near Temple Bar, and to have made the acquaintance of several well-known men, such, for example, as Garrick. During this example, as Garriek. Durlng this period of his life his love for law had delicious beverage, and leaf-fibre used not been increased, and he showed for making mats. for making mats.

Burke, Edmund (1729-97), English law as his profession and an increasstatesman. Very little is known of his early life of B.. in fact the exact In 1755 his attitude towards law and

B. therefore set himself to work to gain a living for himself, and in 1756 appeared A Vindication of Natural Society. In this he imitated the style of Bolingbroke, and purporting to be a posthumous work, was intended as a reply and satire. As a satire it failed. but the style of the book attracted im-mediate attention to the author, and · in the same year his fame was raised to quite a high standard by the publication of the Philosophical Inquiry into the Origin of our Ideas on the Sublime and the Beautiful. This just been made prime minister. of attention, and was translated by ginning of those slanders that never Lessing into German. Towards the end really ceased. He was a Papist and a of 1756 B. married, his wife being tho daughter of his medical man. Dr. daughter of his medical man, Dr.
Nugent. They had two sons, Richard,
born in 1758, and Christopher, who
died in his infaney. By 1756 we may Rockingham, and he can be said to
definitely say that B.'s political ideas have become from this time not only are fixed, and undergo from this time forward no great change. His mind was also turning from abstract speculation to the solution of the political and economic problems of the time. His interest in law was shown in his writings on English history, whilst his later interest in America was hinted at by the publication of An Account of the European Settlements in America. Regarding the latter book B. himself denied that he wrote it. he admitted only that he had revised His Abridgment of the History of this year (1757), but was not puh. Rockingl until after his death. In 1758, when the events of the Seven Years' War were just beginning to turn in our offered a favour, B. put forward the idea of the Annual Register, a publication Hamilton,' whose affairs occupied the whole of his time and prevented him doing any literary work save his work with the Annual Register. He accomwith the Annual Register. He accompanded his patron to Ireland when he inancial distress and suffered great was made secretary to the Earl of lived the same extravagant and Halifax, and on their return to Englement of £300 per annum. He remained of £300 per annum. He remained of £300 per annum of £3 nolds, and .

hls desultory career so displeased his as a talker and thinker ranked very father that he stopped his allowanee. high indeed. Dr. Johnson's opinion of high indeed. Dr. Johnson's opinion of his powers of conversation was of the very highest, and this was no small compliment from the great doctor. He threw up his pension in 1764 owing to Hamilton's demands for the whole of his time and service. But his financial position at this time was not so bad as it had been, and from various of his acts about this time we are able to see that he had some command of money. In 1765 he was appointed private secretary to the Marquis of Rockingham, who had His book attracted a considerable amount appointment was the signal for the be-

> his secretary but also a personal friend. In 1765 he was returned for Wendover, and in the January of the following year, 1766, he took his seat and began his career as an active politician. He spoke on the American question and against his party when ho made his maidon speech about a

and although his voice was harsh and his action awkward, he was soon one of the most eloquent and powerful speakers in the House. In 1766 the Rockingham ministry was over-thrown, and B. spent a short time in He was on his return offered a post in the administration which the Earl of Chatham was forming, but declined to leave his old which was to give a review of the chief leader, and became during the session which was to give a review of the chief leader, and occame during the session events and movements of the year. one of the leading members of the The first volume of this work appeared opposition. He believed in fidelity in 1759, and B.'s connection with the to his party, but he did not follow publication continued actually until the party too blindly, and allowed late he had much to do with its publication. He gradually came to be well known in society, and in 1759 making himself indispensable to his well known in society, and in 1759, and in 1763 he purchased a he became scerctary to 'Single-speech house and an estate. During the Hamilton' whose affairs acquired the nerical which immediately follows. period which immediately follows B. and his relative and friend (William B.) seem to have been in the greatest of financial distress and suffered great

. ainst the policy which the

again of his attempts at conciliation, many differences even with

House adopted towards the Wilkes a great extent responsible for the r. Luttrell elections. In 1770 drawing up of Fox's India Bill. His appeared his famous Thoughts on the acquiescence in the Coalition, how-Present Discontents. In this he put ever, rendered him no service, and forward the gricyances of the people, after the dissolution he found himself and showed that the fault lay not treated with marked contempt by the with the people but with the zov., House, and he was continually rewith the court and its secret cahals. ceived with interruptions and jeers with the people but with the gor. House, and he was continually rewith the court and its secret canals. ceived with interruptions and jeers. He attacked the policy of the House of Pitt to power threw great obstacles the proceedings, and was himself very bitterly attacked, heing without the slightest foundation accused of deeds. At first his chance of success the authorship of the Letters of the authorship of the Juneal Letters of the Authorship of the Letter he withdrew practically from all de-he still played his part in the House. and further away. In 1789 occurred His speech against the employment of the outhreak of the French Revolu-Indians in America was one of the House, and B. was requested for a view post, brilliant which he aver made of his ideas on the Percention. His Indians in America was one of the tion, and B. was requested for a view most brilliant which he ever made of his ideas on the Revolution. His (1775). The next few years were answer was practically the Reflections taken np with plans for economic reference of the Revolution, a book which saw form, and with pleadings for Catholic relief. His known advocacy of a disordered mob against the rule of Catholic relief measures roused not only the anger of the people of London, hut also of his constituents at reconciled with his love of order, in Smitch who rejected him at the next which he alone saw liberty. His election. The rejection of B. by hook created a great stir, it gave rise Bristol was compared at a later date to at least two famous replies, The by Lord John Russell to the rejection Rights of Man (Paine) and Findicia of Macaulay by Edinhurgh. Ho how-Gallicia (Mackintosh). It called of Macaulay by Edinburgh. Ho howof Macaulay by Edinburgh.

It called
ever received a seat at Malton at the
forth the concratulations of the kinghought forward his motion for
economic reform, which was again
economic reform, which was again
principtly in 1782 was due entirely to
the series of attacks made upon it
by B. and Fox. On the formation of
the next Rockingham ministry he
was not given cabinet rank, but he
was not given cabinet rank, but he
friend Fox, led to the withdrawal of
became paymaster of the forces, an
friend-hip with Fox. His desertion
Rockingham. The Shelburne adninistration was overthrown by the
unnatural coalition of North and
self said, Dear as was his friend, the
Fox, a coalition which B. approved.

It called
Corth the concratulations of the kingthus, and of many of the
kingand to B.'s love of toleration; hencerevolution, and he even opposed the
reveal of the Test and Corporation
Acts. His opinions on the Revolution,
and to a breach of his
friend-ship with Fox. His desertion
of his party called down much
ministry in 1782 he lost his friend and leader
friend-ship with Fox. His desertion
(alumn) on his head, but as he himunnatural coalition which B. approved.

He accepted again the office of pay
After his retirement from those of his
party called down much
ministry in 1782 was due contrelly to
the series (Startosh). It called
to the thus, and of the kingand to B.'s love of toleration; hencerejected, but the fall of North is
prevolution, and he even opposed the
repeal of the Test and Corporation
Acts. His opinions on the Revolution,
and to a breach of his
friend-ship with Fox. His desertion
to which B. so widely different from those of his
provaled reform.

Alter Hotel Corporation
to whether the called the forth the concration, and to a breach of his
repeal to the Test and Corporation
to whether the called He accepted again the office of pay. After his retirement from his party master of the forces under the Port-the set himself to lead Whig thought land ministry and gave his attention back to the principles of 1688, and to the question of India, he heing to pub. his Appeal from the New to the

Old Whigs. He took little part in into the interior of Australia in 1860, parl. life during the next session, and when he did, opposed teleration. During the remainder of his life he continued to attack what he con-ceived to be the principles of the Revolution; he was still bitterly attacked by hoth Fox and Sheridan, and it must be owned that on occasion he laid himself open to their sarcasms. In 1795 the impeachment of Hastings ended, and in July of that year B. retired from parliament. that year B. retired from parliament. His retirement was made easier for him hy the grant of a pension, hut the death of his only surviving son just after his election to parliament in snecession to his father broke his heart, and he retired to Beaconsfield a broken man. In 1796 he began the publication of the Letters on a Register Peace, but they were greatly Regicide Peace, but they were greatly delayed owing to his frequent and increasing illness. In 1797 his illness gradually hecame worse, and on July 9 he died. It was proposed that he should be buried in Westminster Abbey, but he had preferred the parish gravoyard at Beaconsfield, and hero he was horne to his last resting place hy members of the 'Whigs whom he had converted to Conservatism.' There is hut one cvent, but that is an ovent for the world—Burke is dead.' See Life by Sir J. Prior, and especially Lord Morley's Burke (English Men of Letters series), 1879.

Burke, John (1787-1848), genea-logist, early began seriously to stu genealogy. In 1826 ho puh. Genealogical and Heraldic Dictions

Encyclopædia of Heraldry. Burko, Sir John Bernard

92), British genealogist. He was in London and received his education here, afterwards in France. His father, John B., instituted the work which has since been issued annually, ealled Burke's Peerage. Sir John became Ulster King-at-Arms in 1853, and was knighted in the following He died at Dublin, closing a life given up to studies in genealogy. He edited Burke's Peerage till his death, besides producing The Roll of Balle Abbey, The Romance of the Aristocacy, Vicissitudes of Families.

Burke, Robert O'Hara (1820-61), Australian explorer. A native of Ireland, he was educated in Belgium, and became at the age of twenty a captain in the Austrian army. Ho joined the Royal Irish Constabulary in 1848, and in 1853 he sailed to Melhourno, where he became a member of the Delica Wellourno.

which ended tragically. Dissonsions caused fatal delays to an expected relief party, and B. with Wills and Gray, his two companions, perished miserably.

Thomas Henry (1829-82), Burke, gov. official, after acting as private secretary to Sir Robert Peel and other chief secretaries for Ireland, became, in 1869, himself Under-Secretary for Ireland, a post which he held till he was assassinated together with Lord Frederick Cavendish, the new Chief Secretary, in Phænix Park, Dublin, by a memher of a secret society called

the Invincibles.

Burke, William (d. 1798), kinsman of Edmund Burke, and reputed author of Junius' Letters, travelled with his famous kinsman in 1752, and assisted him in the Account of the European Settlements in America, 1757. From 1755 to 1758 he was Under-Secretary of State, and from 1766 to 1774 was M.P. for Great Bedwin. In parliament he showed, according to Herace Walpole, 'his cousin's presumption,' with 'neither manner nor talents.' In 1769 he was bankrupt as the result of unfortunate speculations. From 1777 to 1792 he spent most of his time in India, having been appointed, in 1782, commissary-general of the forces in the E. Indies. He had already lived with Edmund B. at Queen AnnoStreet, and at Gregories, and, on his roturn home in 1793, gladly availed himself of the offer to nurse his hroken health

of the Peerage and Baronelage of United Kingdom, the first work of its kind to have an alphabetical arrangoment. He is also the author of an itrades led to his adoption of body-

fellow-loafer to Dr. Robert Knox of Edinburgh for £7 10s. This was his first attempt. Later the two men perpetrated a series of murders by means of suffocation, afterwards dis-posing of the bodies to anatomists, chief among them being Dr. Knox. By the time the fifteenth murder had been committed suspicion culminated in their arrest, and on queen's evidence from Haro, B. was hanged in 1829. The slang term 'to burke' signifies the process of suffocation skilfully arranged to leave no signs of violence.

Burkhan-Budha Mountains are a range of the Kuen-lun system, Tihet, which is largely composed of schists joined the Royal Irish Constabulary and archesan crystalline rocks, with in 1848, and in 1853 he sailed to Paleczoic sediments, If runs in a Melhourno, where he became a member W.N.W. to E.S.E. direction, keeping of the police. He led an expedition between 96° and 98° E. The average 17,000 ft.

ExplanatoryNotes on the reprinted and abridged. See Park-hurst's Life, 1704; Calamy's Account,

War he was at the front, at hist as succeeded the Marquess of Winthe Central News correspondent, and ehester as Lord High Treasurer in the then as the representative of the following year. B.'s domestic life was Daily Telegraph. Besides accompanying the desert column from panying the desert column from twas a feature of the time. Biblio-Korti to Metammeh in 1884, he went graphy: Great Lord Burghley, M. A. on the Ashanti and Atbara expeditions. Finally he was at the front during the S. African, the Somali, the Burlesque (from It. burle, a jest) is Burlesque (from It. burle, a jest) is applied to writing acting stocking. during the S. African, the Somali, the Burlesque (from It. burla, a jest) is Russio-Japanese, and Balkan wars. applied to writing, acting, speaking,

elevation is over 16,000 ft., whilst one hemarried Cheke's sister, by whom Pryhevalski has an altitude of he had Thomas, an only child, and 17,000 ft. the destined Earl of Exeter. In 1543 Burkitt, William (1650-1703), diBurkitt, William (1650-1703), diBurkitt, William (1650-1703), diMary Cheke died, and he re-married, vine and commentator, b. in Suffolk; three years later, a daughter of Sir authony Cooke. It is reported that Roger Ascham placed her with Lady Jane Grey as the two most crudite women in the country. In 1543 he sat in parliament, and four years later accompanied the Protector preached against Baptists. 1691: Somerset on his Purkie expedition. preached against Baptists, 1691; Somerset on his Pinkie expedition. helped Fr. Protestant exiles, 1687-92, Ahout 1548 he hecame private secreand showed great zeal for foreign tary to Somerset, and shared to a missions. Among his works are: certain extent the anxiety felt hy Argumentative and Practical Distribution the protector during his fall. He was course on Infant Baptism (reprinted, sent to the Tower in 1549 by order of 1789). Been Mark Male and Venus State of the Tower in 1549 by order of 1722); Poor Man's Help and Young Somerset's opponents, but in Jan. of Man's Guide (32nd ed. Help and the following year was released upon Guide to Christian Families, 1764): oath. He successfully won Warwick's four good graces and presently became Example 18 Families From Notes on New One of his secretaries. In 1551 he was Testament. His works were frequently knighted. During the changes brought about hy the accession of Mary he adopted an accommodating attitude. 1713; Palmer's Nonconformist Me and by a series of elever dissimula-morial, 1803. tions retained royal favour, though in Burlamaqui, Jacques Jean (1694 Mary's parliament he had no seat. Be-1748), Swiss writer on natural law, fore Mary's death B. had established

1748), Swiss writer on natural law, fore Mary's death B. had established after travelling in France and England, hecame professor of law, and later, when his health gave way, member of the council of state at member of the council of state at least the state of the council of the council of the council of the council of the many pitfalls about her utilitarianism is expressed in the lucid, unaffected writing of his lucid, unaffected writing of his Principes du Droit Naturel, 1747, and him a master in the art of avoiding, his Principes du Droit Politique, 1751.

Burleigh, Bennet, English war correspondent, has been on the staff of the court of wards, and of the Daily Telegraph since 1882, burling the American War, in which he may pitfalls about her accession, the many pitfalls about her accession, the many pitfalls about her accession, the many pitfalls about her utilitation for a man of B.'s stamp, and his experiences had left Principes du Droit Naturel, 1747, and him a master in the art of avoiding, hot meeting, danger. In the following the American War, in which and throughout his parl career carned he fought, he was twice sentenced to a reputation for chastity of purpose. he fought, he was twice sentenced to a reputation for chastity of purpose, death. Throughout the Egyptian He was made a peer in 1571. He War he was at the front, at first as succeeded the Marquess of Win-

Thus in his various publications he and to drawing, where it is more often was able to draw on a wide experience. called 'caricature.' It consists in diswas able to draw on a wide experience.
Burleigh (or Burghley), William (Sceil, Lord (1521-98), was horn on the object being to exeit ridieule. Scpt. 13, at Bourne in Lincolnshire. Thus it throws into strong relief his descent was traced to an Owen of the time of King Harold, and a Sit syllts of the reign of Rufus, but the authenticity of this connection is doubted. William was the eldest son of Riehard, a ycoman of the wardrobe, and Janc Heekington. At the age of soften is, it is used to expose hombast of Riehard, a ycoman of the wardrobe, and all hypoerisies, rather than to all hypoerisies, rather than to display true nobility and genuine fourteen he entered St. John's College, Cambridge, where he met. Roger Ascham and John Cheke. Here he obtained an unusual mastery of the jobtained an unusual mastery of the make 'gods speak like common men, Gk. language. At the age of twenty-Gk. language. At the age of twenty- and common men like gods.' Thus all

rabbits and birds and eats are en- its situation gives it some popularity dowed with the sense—and folly—of as a summer resort. Its manufs, inhuman beings, are also Bs. What clude sashes, doors, blinds, boxes, human beings, are also Bs. What clude sashes, doors, blinds, boxes, may be styled 'animal' Bs. have been furniture, woollens, refrigerators, popular from the time of Chaucer; paper, and machinery 3. A city of indeed his Nun's Priest's Tale, where Iowa, U.S.A., Is situated on the Chauntleleer, the cock, and Pertelote, Mississippi. Its pop. of 25,318 com-hls wife, discuss the value of ominous prises 1492 foreign born. Good Ilmedreams after the manner of Gk. sages, stone is quarried here, while its manu-has never been surpassed. Most metures are lumber, furniture, has never been surpassed. Most metures are lumber, furniture, people would agree in giving to baskets, pearl huttons, cars, carriages, Aristophanes the highest place among flour, and pickles. B. writers. Even to-day the splendid: Burlington, in Young his representations of Socrates | LINGTON. up in a balloon studying the licavens, or of the demanague Cleon as a sausage-seller can be appreciated by every classical student, and how much more monstrous must the B. have appeared to the actual con-temporaries of Socrates and Cleon, who could enjoy at once the plquancy | of many an allusion lost to-day, The Italian word originates in the Opere Burlesche of Berni, 1497-1535. In Franco Scarron mado a ciever mock imitation in his Virgile Travesti, 1648-53, and throughout Lonis XIV.'s reign travestics of the Illads of antiquity were fashionable. In Don Quixole the ideals of chivalry aro ludlerously misrepresented through the adventures, both of Don Quixote, the enthusiast, and Sancho Panza, the apostle of common sense, whilst Chaucer in his Rime of Sir Thopas, gently scoffs at the interminable and tiresome romanees of his day. Buckingham's Rehearsal and Gay's Beagar's Opera may also he quoted as apt illustrations of burlesque. Burlingame, Anson (1820-70), an

American diplomat. He was a nativo of New Berlin, New York, He graduated at the Harvard Law School in 1846, and subsequently practised successfully at Boston. His speeches in defence of free soil in 1848 aroused considerable attention. In 1853 he renentered tl tion. His . in-

mock-heroic poetry, such as Butlor's 2. A city of Chittenden, co. Vermont, inimitable Hudibras, Pope's Rape of U.S.A. It is piaced on the E. coast of the Lock, and many of the smaller Lake Champlain, and is the largest poems of Gray and Cowper, where town in the state. Its pop. is 21,070.

Burlington, in Yorkshire, see BRID-

Burlington, Earls of, see BOYLE, RICHARD (1612-97), and BOYLE, RICHARD (1695-1753).

Burlington House was built on the N. side of Plecadilly in about 1665. In 1854 the gov. paid £140,000 for the old house, which Richard Boyle, Earl of Burlington, had built. Royal Academy acquired a leaschold of it and of a garden behind in 1867, and two years later opened exhibition galleries and schools over the garden The new building in the Italian Renalssance style, erected 1869-72, now provides accommodation for an

Linuean, Geological, and Chemical. The Gibson statuary and diploma works are stored in the upper story, whilst the Royal Academy holds its annual exhibition and banquet here in premises consisting of thirteen

m. long, in the N. of the delta of the Nile, Egypt, with which it is con-nected by canals. One channel also connects it with the Mediterranean.

Burma, n prov. of British India. It comprises the previously independent kingdom of B., and British B. secured by the wars of 1826 and 1852. The province is divided into Upper and Lower B. It is situated appearant Lower B. It is situated by the British of Portree in the Province is divided into Upper and Lower B. It is situated by the British of Portree in the Province in the Prov tion. Its dependenc rian on the E. of the Bay of Bengal, attitude to his appointment as minister at Vienna. He was sent to China by Lincoln, as a result. His activities from N. to S. is 1200 m., and its produced the 'B.' treaty, in which for territory was acknowledged. He does not be supposed to the N., Manipur, the Mishmi Hills, for the E., Chinese died at St. Petersburg.

Shan States, parts of Yun Nan, Indo-China (Fr.) and Shares Shan S. Burlington: I. A. city of New Jersey, China (Er.), and Slames Slan: S. U.S.A. It is situated on the Delaware R., 18 m. N.E. of Philadelphia. Bengal; W., by Bay of Bengal and Its pop. 18 8638, of whom some Chittagong. Its coast-line is about 600 were of nezro deseent. The B. 1200 m., and the area 238,738 sq. m. Society Library is one of the oldest in America, and the town owes its basin of the Irawall, the area drained settlement to Eng. Quakers, in 1677. by the Salween and Sittang rivs., and the provs. of Arakan and Tenasserim, country is hilly and disturbed. tensive dists, attain a height of 2000 to 4000 ft. The chief mts. are the Patkoi in the N., 12,000 ft.; the China Hills, 15.000 ft., which are snowcapped; the Arakan Yoma Mts.: the Pegu Yoma; the Tenasserim, and the entire ter. of the Shan States. chief riv. is the great Irawadi. whose source is at present undiscovered, but whose known length is 1100 m. flows from Tibet to the Bay of Bengal. It is navigable for the whole year as far as Bhamo. 700 m. from its delta. The only navigable affluents for large results are the Chindwin, the Shweli, and the Myit-nge. The Salween, rising in the snows of Tihet, is navigable for 300 m. during the rainy season and for half that distance in the dry part of the year. The Sittang rises in the hills of Mandalay. Innumerable metrics are said to the contract of the part of the said of the part. native craft ply on these rivers and their trihs, during the rainy season, but save for the largest streams, they are neeless for navigation in the dry season. At floods, which are frequent in the wet season, the great rivers spread their waters over a space of The duration of the wet season at the . delta extends sometimes over a period of five to seven months, and though the atmosphere is excessively moist. the temperature is not extremely hot. thermometer records frequently 100° in the shade. Unlike India, there is not the blast of the hot wind, and the nights generally are cool. The fact

duets being teak. These trees are seen which are both maritime. With the here sometimes with a girth of 25 ft., exception of the deltas of the Irawadi, and a height of 120 ft. from the ground the Salween, and the Sittang, the to the lowest branch. The bamboo country is hilly and disturbed. Ex- grows in profusion, and is used in grows in profusion, and is used in many ways. The different forest products include wood, oil, varnish, tannin. gums, and ruhber. The wild animals of B. include the elephant, rhinoceros. buffalo, tapir, bison, deer, hog, cattle, tiger, leopard, and bear. There are no horses, and sheep and goats are rarely met. Pythons and cohras are found in great numbers, while that deadliest of eastern reptiles, the hamadryad, is occasionally encountered. An extraordinary profusion of beautiful and varied birds form a striking feature of the country, and an equal richness marks the fish supply. From the shark to the shrimp, all piscatorial specimens are food for the Burmese. In the caves of the Mergui Archivate pelago are procured the edible birds' nests which form one of the delicacies of Burmese diet, while turtle eggs are also held in high esteem. The gathering of these eggs is controlled by the state. The mineral deposits of B. comprise gold in river sand in small quantities; silver in the Shan States; iron, copper, and lead in large but 10 to 15 m. from each bank, and only unworkable quantities; tin in the the precaution of building the native Mergui dist.; petroleum hy the Irahuts on piles, and the fortunate cire wadi; and Arakan oil: this is an oil cumstance of the slowness of motion, which may be used immediately it is saves the Burmese householders from abtained from the moule that cumstance of the slowness of motion, which may he used immediately it is saves the Burmese householders from obtained from the well; lade and destruction. Two hundred miles from amber are worked, though the former the sea the Irawadi is one mile wide. Is the more successful; good white The climate and rainfall vary conmarble is quarried at Mandalay, siderably in the different parts of the where it is used in the ornaments of prov. The mean rainfall on the coast Buddhist temples; coal is mined at is 100 in, while near the Irawadi it many places in Upper B., especially falls rapidly. At Prome it is only 42 at Kale on the R. Chindwin, and at in., and at Thayet-myo scarcely 37 in. Thingadaw on the Iarwadi; limestone The rainfall is particularly heavy on is procurable, and is hurned in large The rainfall is particularly heavy on is procurable, and is humod in large the Upper Chindwin, on the Rnby quantities. In Mandalay the finest Mines platean, and on the Shan Hills. rubles in the world are found. The total pop. in 1901 was 10,490,624, which is composed chiefly of Burmese, Arakanse, Karens, Shans, Chins, Kachins, and Talaings. The Burmese people are short and thick-set, and Indeed from Nov. to Jan. the tem-approach the Chinese rather than the perature sometimes reaches 60° F., Aryan type. Despite a want of but from Feb. to April the delta practicality in their nature, and a lack atmosphere is hot and dry. and the of method, there are very few poor, of method, there are very few poor, and no beggars to be met at all. Their staple food is rice. Buddhism is their religion, and it is of the purest form. The dwellings of the Burmese are nights generally are cool. The fact The dwellings of the Eurmese are that, at the Ruhy Mines plateau, no almost invariably of wood, generally higher temperature is registered than 56°, has induced the authorities to bamboo. Only the wealthiest memsered a military sanatorium there. On the masonry. The floods cause the houses the whole, the climatic conditions are less easy to endure than those of the from the ground. The unusually large plains of India. There is an abundance number of monasteries throughout of useful and valuable trees in the the inhabited parts of the country forests of B., chief of these wood pro-

erection of one of these hostels is felt to be a safeguard upon happiness (1699), Justin (1722), Ovid (1727), after death. Mandulay is particularly Snetonius (1736), and Lucan (1740). rich in this respect. The teak of the after death. Mandalay is particularly rich in this respect. The teak of the forests is controlled by the state, which pays much attention to the many pages of a catalogue. scientific nonrishment and eniture of this valuable tree. The gov. of B. is invested in a chief-commissioner who studied under his uncle at Leyden, acts for the viceroy of India. His and made a special study of law and headquarters are mainly at Rangoon. over each prov., of which there are eight, is a commissioner whose administrative area is divided into smaller dists., each supervised by an assistant-commissioner. The earliest monarchs in B. were Buddhists from India, and the Burmans first occupied the Irawadl valley about 2000 years ago, migrating from Central Asia. The Shans wrested the country from its original inhah., and later it was propied by the Talaings. Settlements by the Fr. and Eng. were made in the 17th century, though the Portnguese had occupied parts of the Irawadl deita in the 15th century. In the 18th century Chinese armics invaded the ter. from the N. Duriag the beginning of the last century the Burmese con-quered Assam, and in 1820 they met the Eng. Burmese depredations led to a war in 1824, at the conclusion of which the Burmesc consented to ohserve a treaty. But hostilities were renewed in 1830, and Pegu was taken hy the British. An interval of peace succeeded tili 1885, when further violence and insult made a fresh ex-pedition necessary. Resistance against the British was half hearted, and

The Soul of a People.

Burmann, Pieter (1668-1741), Dutch classical scholar, famous nsually known as the Elder to distinguish him from his equally famous nephew. He was born at Utreeht, and commenced his studies at the university there. He studied closely the in all parts of the country. elassics and became very proficient in Latin. He was intended for the legal profession, and after studying at Leyden and travelling through Switzerland and Germany, he settled down to his profession. He later be-came the professor of history and cloquence at the university of Utrecht. Next he became professor of Greek language and cloquence at Leyden, and finally professor of history for the United Provinces and chief librarian. He was famous throughout Europe for his commentaries and editions of the classics. and he took part in a number of the disputes which waged between the He died fighting at Ahu Kleain Feb. men of letters of the period. Amongst Burnand, Sir F. C. (b. 1836). Eng. his more important publications may humourist. He was horn in London

his publications altogether filling

Burmann, Pieter (1714-78), nephew of the above, born at Amsterdam. He phllology. He hecame in 1735 pro-fessor of history and eloquence at Francker, and later professor of history and philology at the university of Amsterdam. He afterwards hecame general librarian and inspector of the gymnasinm. He was extremely learned, and published many editions of classics, together with an Anthology of the 1759-73. H

(1746), Clar (1780), and

Burmanniaceæ is a small order of monocotyledoaons plants found in tropical forests. The flowers are bright blne, and the plant is a saprophyte. The chief genus is Burmannia, of which there are some thirty speeles.

Burn, Richard (1709-85), born in Westmoreland Westmoreland and educated at Queen's College, Oxford; he hecame one of the greatest anthorities on law. He took holy orders and became vicar of Orton. But he devoted his life to a stndy of law, and was made chan-cellor of the diocese of Carlisle. His two most famous works were Justice of the Peace and Parish Officer and his Ecclesiastical Law, which was regarded as the standard authority on that subject for a great many years. Both these books were the ontcome of much research and carried anthoritative weight.

Burn, William (1789-1870), a Scottish architect, native of Edinhurgh. He was educated for his profession under Smirke. He was successful in Edinhnrgh and London, where he settled in 1844. He has left his work

Burnaby, Frederich Gustavus (1842-85), Eng. traveller and soldier. The son of a elergyman, he was educated at Harrow, and entered the Royal Horse Guards in 1859. He aeted as Carlist correspondent of the *Times* in 1874, and later went to Khartoum to inof vestigate and report upon Gordon's expedition. Heachieved famethrough the travelling feat of crossing Russian Asia on horschaek, which is described in his A Ride to Khira. His love of excitement found vent in a series of halloon ascents, in one of which he crossed the Channel. Later he was wounded in action at Egypt in 1884.

on Nov. 9. Cowley, was descended from the author, Hannah Cowley. He received his education at Eton, afterwards

Club at Cambridge. and made dramatic writing his work. Black-Eyed Susan, a buriesque, made a great hit, and he followed with a large number of farces and comedies. He succeeded Mark Lemon as editor of Punch, in 1880, and was knighted in 1892. Four years later he retired from his editorial chair. He pub. Happy

Thoughts, a well-known book.

Burne, Sir Owen Tudor (1837-1909), major-general, was drafted in 1856 to India with his regiment, the Lanea-shire Fusiliers, the Mutiny having broken out. Owing to his knowledge of Hindustani, he was soon appointed brigade-major. At the assault of Kaisar Bagh he led the attacking column. His gallant services secured his captainer in 1864. Sir Hugh Rose, impressed with his work as adjutant, appointed him private secretary in 1862, and he held a similar position under Lord Mayo in 1868, and under the viceroy, Lord Lytton, 1876-78. B. was with the former when he was murdered in the Andaman Islands. As an authority on Eastern questions, he contributed regularly to the Times, and was for many years connected with the India Office as adviser and head of the secret department.

Burne-Jones, Sir Edward Burne, Bart. (1833-98), English painter, born at Birmingham on August 28. He was an only son, and of Welsh extraction, to which strain his high ideals have been attributed. He was educated at King Edward's School, Birmingham, and studied for the Church. During his educational Church. During his educational period he awoke to an adoration of the mythology of the classics. In Jan. 1853, he entered Exeter College, Oxford. Here he net William Morris, who had joined the house on the identical day, and the couple became fast friends. They found in each other the necessary stimulus for their individual aims. After a close and absorblus study of the It pictures in absorbing study of the It. pictures in the university, he came across two paintings by Rossctti, which immedipantings of Noscott, which immediately set light to a great admiration. The two friends had by this time discovered their true bent, and relinquishing the Church, they devoted themselves to art. B. took Rossettl for his master, though he had not yet met the artist, but in 1856 his dream was realised, and his acquaintance with Rossetti began. He left college,

His mother, Emma and settled in London, and commenced his studies under the instruction of Rossetti. Morris soon joined him here. So apt a pupil did B. become, that, by the end of the same year, Rossetti was compelled to admit, though without any acrimony, that he was no longer able to teach the young artist more. Many branches of the work were undertaken by the young man, among them being pen and ink work on vellum, oils, and eartoons for stained glass. In 1858 his deep admiration for Chaucer led him to execute a cabinct decorated with The Prioress's Tale. His first journey to Italy was made in the following year, and in 1860 he executed two water-colours which show most strongly Rossctti's influence, and which rival in a greater degree yet reached, that master's work. These works were 'Sidonia von Bork,' and 'Clara von Bork.' He married Miss Georgina Maedonald in the same year, and in 1862 the couple accompanied Ruskin on his tour to Milan and Venice. In 1864 he was elected an associate of the Society of Painters in Water-Colours. Ho became A.R.A. in Water-Colours. Ho became A.R.A. in 1886, and in 1894 he was made a baronet. An attack of influenza resulted in his death on June 17, 1898. Among his masterpieces are: 'King Cophetua and the Beggar Maid,' 'The Golden Stairs,' 'Pan and Psyche,' 'Chant d'Amour,' and the 'Annunciation.' Besides his colour-work, B. exercised a great influence upon designs in stained glass, and specimens of his work are to be found all over the country. See Memorials, by Lady Burne-Jones, 1904; Lires by M. Bell. Burne-Jones, 1904; Lives by M. Bell, 1898, and Mrs. Adv. 1894.

Burnell, Acton, Statute of, see ACTON

BURNELL, STATUTE OF. Burnell. Arthur Coke (1840-82), Sanskrit scholar, went out to Madras in 1860. All his free time was devoted to Sanskrit, and in 1870 he generously gave his collection of 350 MSS, to the gave his collection of sou man, so India library. Of his Handbook of South Indian Palaography, 1874, South Indian Palacography, 1874, Professor Max Müller remarks, 'It opens an avenue of the thickest and darkest inngles of Indian archeology,' But his chief work was his Classified Index to the Sanshrii MSS. in the Palace at Tanjore, 1880. It is a com-pendium of the Sanskrit literature of Southern India. Over-work and the hardships of the Madras climate were responsible for his early death. had an intimate knowledge of the Southern vernaculars, and had also studied Tibetan, Arabic, Coptic, ctc.
Burnes, Sir Alexander (1805-41), soldler, traveller, and explorer. He

which he learned the native language, he received rapid promotion, and was employed on several special missions. During the whole of this period he he proposed the exploration of the North-Western Provinces, which at the wcre practically unknown, and in 1831 went to Labore on a special mission. In the following year he started on the tour which took him across the Hindu Koosh, to Bokhara and Persia. The hook which he published on his return to England roused great interest, and ohtained for him the recognition of the British and French Geographical Societies. On his return to India he went on a special mission to Kabul, and was later special envoy there. He was sappointed professor of divinity in the university of Glasgow. During the whole of this period he was attempting to bring about a good understanding between the Episcopalians and the Presbyterians. In 4073 he published his Vindication of Authority, and in the following year the Lives of two Dukes of Hamilton, where he was, on the whole, favourbly received and given the chaplaincy of the Rolls Chapel, and later special envoy there. He was on the whole, favour his History of the Reformation, for the first two vols. of which he revelved the thanks of parliament. He showed himself independent of court

Burnet is the name given to various species of Polerium, a genus of Rosaceæ found in northern climates. P. Sanguisorba, the salad B., is a unisexual plant with an indefinite number of long stamens; the flowers, situated at the top of the spike, are female, those below are hermaphrodite. P. officinale, the great B., has four firm and reddish-coloured stamens facing the sepals, the corolla is absent, hnt there is a nectary round the style. Burnet, Frances Hodgson (b. 1849),

Burnet, Frances Hodgson (b. 1849), English novelist She was horn at and settled in

nelusion of the American Civil War. In 1813 she married Dr. B. and toured Europe. Her first successful production was That Lass o' Lowrie's, which appeared first in Scribner's Magazine. Haworth's, her next novel, was puh. in 1877. Her chief works following these two were: A Fair Barbarian, 1882; Through one Administration, 1883; and her most popular novel, Little Lord Fauntleroy. 1886, and a host of short stories. Her work has been compared with that of Mrs. Gaskell.

Burnet, Gilbert (1643-1715), English historian and divine, was born at Edinburgh, of one of the ancient and distinguished houses of Scotland. He was educated at Marisebal College, Aberdeen, and after studying law for ahout a year gave that up in preference for divinity. In 1661 he accepted orders in the Episcopal Church which had just heen restored in Scotland on the Restoration. In 1662 he visited London, Oxford, and Camhridge, and in the next year made an extensive tour through France and Holland. A short time after his return he was offered the parish of Saltoun in Haddingtonshire, which he accepted, and which he retained for the next four vars. In

During the whole of this period he was attempting to bring about a good understanding between the Episco-palians and the Presbyterians. In 1673 he published his Vindication of Authority, and in the following year the Lives of two Dukes of Hamilton, an account of the civil wars in Scot-land. In 1674 B., not being able to accept Lauderdale's solution of the Church question, came to London, where he was, on the whole, favourably received and given the chaplaincy of the Rolls Chapel, and later he became lecturer of St. Clements. Between the years 1676-79 appeared his History of the Reformation, for the first two vols. of which he received the thanks of parliament. He showed himself independent of court influence, and offended Charles II. by the attitude which he adopted in the execution of Russell. On the accession of James II. he left the country and travelled in Europe, but finally settled in Holland, and had considerable influence over William. He returned to England with him, and was appointed Bishop of Salisbury. His pastoral letter claiming England for William III. by right of conquest, gave grave offence, and was publicly burnt hy the hangman. His work in his diocese was vigorous, and he gave great attention to his pastoral duties. He suggested the scheme which was afterwards adopted in the provision known as Queen Anne's Bounty. In 1699 he was appointed tutor to the Duke of Gloucester. His Exposition of the Thirty-nine Articles was pub. in 1699, an exposition which met with much condemnatory criticism at the hands of the clergy. His influence declined with the death of Queen Mary. Hc died in March 1715 and was huried at St. James, Clerkenwell. His great work, the History of his own Times, was directed to be pub. six years after his death. It was pub. six years after his death. It was actually published between the years 1724-34. This work was also bitterly attacked, its most important parts are naturally the history of the Church in Scotland, the Catholic question in England, and the negotiations previous to the Protestant revolution in 1688, all of which he was able to write on from his own was able to write on from his own actual experience. See Clarke and Foxcroft, Life, 1907. Burnet, John (1784-1868), painter and author, born at Fisherrow,

and Cambridge, and in the next and author, born at Fisherrow, year made an extensive tour through after his return he was offered the parish of Saltoun in Haddington-Greenwich Pensioners' is the best shire, which he accepted, and which he accepted and which he accepted and which he accepted and whose painted in 1837. He also

authority npon art, wrote with important mostbeing A Practical Treatise upon Painting, and Rembrandt and His Works. He also wrote a Life of Turner in co-operation with Cunning-

ham. He died at Stoke Newington. Burnet, Thomas (1635-1715), English divine, was born in Yorkshire, and cdncated at Clare, Cambridge. He became a fellow of Christ's. and later senior proctor of the university. Later he became master of Charterhouse, and in this position he did his best to prevent the Catholic appointments of James II. He became elerk of the closet to William III., in succession to Tillotson, but by reason of the outery raised by the publication of his Archeologic Philosophica, was forced to retire. He retired to Charterhouse, where he died. His two most famous publications were: Telluris, Theoria Sacra, a work in which he put forward a fanciful idea of the account of the creation as an allegory, with the result above mentioned.

Burnett, George (1822-90), Scottish writer on heraldry, was called to the Bar in 1845. He early interested himself in Scottish genealogy, and wrote the most part of an excellent *Treatise* on Heraldry. His most valuable work is his Exchequer Rolls, 1264-1507, which he worked at from 1881 to 1890. Its twelve vols, contain much that is indispensable to the true appreciation of his country's history. In 1866 he held the office of Lyon King of

Arms.

Burnett, Gilbert Thomas (1800-35). botanist, early devoted himself to the study of medical hotany. Though he hegan practice as a surgeon, he was known to his contemporaries chiefly as a popular lecturer. On the opening of King's College, London. 1831, he quently at the Royal Institution, St. George's Hospital, and later hefore the Apothecaries' Society. Lack of precision in style detracts from his Outlines of Bolany, 1835.

Burnett, James, see MonBoddo.

Burnett Prizes, two premiums founded by John Burnett (1729-84), a merchant of Aberdeen. John Burnett directed that a part of his fortune famous daurliter was to he allowed to accumulate durappeared in 1832. ing periods of forty years in order to create a prize fund to be awarded to classical critic. His father was Charles the authors of the two best treaties B., the celchrated authority on the on 'The evidence that there is a history of music. He was born at Lynn

Being all-powerful, wise, and good by productions whom everything exists; and particularly to obviate difficulties regarding the wisdom and goodness of the Deity; and this independent written revelation and of the revelation of the Lord Jesus; and from the whole to point out the inferences most necessary and nseful to mankind.' The first competition took place in 1815, the first prize, £1200, being won by Dr. W. L. Brown, prin-cipal of Aberdeen University; the second, £400, by the Rev. J. B. Sunner, afterwards Archhishop of Canterhury. In 1885 the first prizewas awarded to the Rev. R. A. Thompson, and the second to Dr. Tulloch. Since then the fund has been used to found a lectureship; the first lectures were delivered on the subject, 'On the Nature of Light.' by Prof. Stokes of Cambridge, in 1883.

Burnett's Fluid, a deodorant intro-duced by Sir W. Burnett (1779-1861). structure of the earth, and which was It consists of a solution of zinc chlorafterwards translated under the title ride, which decomposes the stronglyof the Sacred Theory of the Earth; and smelling ammonium sulphide, formthe hook already referred to, Archaologia Philosophica, which he after
wards rendered into English In his
are practically without odour. To
latter work he treated the Mosaic burnettise wood or fabrics means to saturate the material with zinc chloride solution; this process prevents

decay.

Burney, Charles (1726-1814), doctor of music and writer, was for three years a pupil of the famous Dr. Arne in London. From 1745-50 he composed the music for three operas, Alfred Robin Hood, and Queen Mab, which were produced at Drury Lanc, but being threatened with tuberbut being threatened with tubereulosis, he gladly accepted the position of organist at Lynn, Norfolk, in
1751. It was during his nine rears'
residence here that he conceived the
general plan of his History of Music,
which did not, however, begin to
appear until 1776. Although his
account of primitive Gk, music in the
first yell excited much hostile critifirst vol. excited much hostile critieism, and his appreciations of Handel of King's College, London. 1831, he and Bach were recognised as inade-was appointed first professor of quate, yet his work has formed the botany. hut he also lectured free basis of all similar histories of later time, and secured the author a welldeserved popularity. The musical material he collected during his tours abroad, 1770 and 1772, was pub. in two essays. Dr. Johnson was among his many admirers, whilst he owed to Edmund Burke his position as organist at Chelsea Hospital, 1783-1814. Hls Life, written by his more famous daughter. Madame d'Arblay,

becoming later chaplain to the king. fletion. See Austin Dobon, Fanny His sister was Madame D'Arblay. Burney (English Men of Letters He died at Deptford. His works, scries), 1903.
include Tentamen de Metris Eschyli, Burnham, Frederick Russel (b. 1800).

the Burncy library. out in utmost secreey, but the father prisoners from being taken away.
was very prond of Fanny when she Burnham Beeches, a wooded region
was admitted into the fellowship of in Buekingbamshire. It is the rethe most distinguished literary people mains of an anct. forest, and consists Burke, so the story goes, sat np all them for public use. Burnham itself night to read it, and Reynolds would is a township of 3245 inhahitants. not touch his food nutil he had reached tbe end. For five years, 1786-1791, Miss B. earned £200 a year for attend-Miss B. earned £200 a year for attending to the wardrobe of Queen Charlw. N.W. of Launceston, and the ter-lotte, hnt she was glad to accept a minus of the railway to Mount pension of £100 a year instead. She Bischof. Pop. 1500. pension of £100 a year instead. She married a French officer, M. D'Arblay In 1793, and lived with him in France from 1802 to 1812. Their son was born 1802 to 1812. Their son was born 1802 to 1812. Their son was born purpureus, is a species of Celastraceæ found in N. lands. The seeds have a Cecilia, 1782, and Camilla, 1795. Her fatnous diarry, which extended over seventy-two years, appeared posthnmously hetween 1842 and 1846, and bus play their part seventy-two years, appeared posthnmously hetween 1842 and 1846, a lens may be used to hring the It was always her ambition to write, has sheridan suggested, for the stage. The heat thus dispersion of unfeminine prevented her from mak-light are focussed. The heat thus

in Norfolk, and was educated at ing any attempt. Indeed she was hy Charterhouse and Cains College, nature somewhat prudish and self-cambridge. He received at different effacing, quite unlike the bas bleus times the honorary degrees of M.A. of the day, yet anthorities agree that (Cambridge), and D.D. by the Archbisbop of Canterhury. He opened a school at Hammersmith in 1786 by her lifetime she was over-estimated, which be became wealthy. He took hut her work is still regarded as an orders in the latter part of his life, invaluable link in the early history of her orders in the latter part of his life, invaluable link in the early history of the king field of the latter part of his life, invaluable link in the early history of the king field of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the early history of the latter part of his life, invaluable link in the

include Tentamen de Metris Eschyli, Burnham, Frederick Russel (b. 1809; Remarks on the Greek Verses 1861), American scont, born in the of Millon, 1790. His valuable library wilds of Minnesota. He took part in was acquired by parliament and de-the cattle wars of the American S.W., posited in the British Museum as and in 1893 first visited S. Africa. At the Burney, Frances (1752-1840), a british S. African Company, which novelist, was the danghter of Charles was at war with the Matabele. With B., D.Mus. In 1761 a year after the family's removal to London, Mrs. B. a small party which set out to capdied. Fanny was never 'placed in ture the Matabele king. However, be age of ten. she had already tanght ask for reinforcements, which were, herself to read and write, and at once showed a delight in putting both the arts into constant practice. Her same tribe, be gained distinction by precocity as an authoress was probably due to the fact that, at her is who was the instigator of the revolt. father's house, she was continually in 1899 Lord Roberts sent for him being introduced to the leading men; from the Klondyke gold fields to of the day both in music and literation of the Same tribe, be gained distinction by strength of the day both in music and literation of the Roberts sent for him ture. Still, at the age of fifteen, she was captured at Sanna's Post, where was induced to burn her manuscripts, Broadwood's convoy was surrounded, as her stepmother considered the practice of scribbling unladylike. Her time he destroyed the railroad being the problem of the step of the leading men if the practice of scribbling unladylike. Her time he destroyed the railroad being the problem of the step of the leading men practice of scribbling unladylike. Her time he destroyed the railroad being the problem of the leading men problem of the script was the destroyed the railroad being the leading men and scriptly was the destroyed and Johannesburg, extending a problem of the leading men and scriptly was the destroyed and Johannesburg, extending a problem of the leading men and scriptly was the destroyed and Johannesburg. once he entered the service of the first and best novel, Erelina, was tween Pretoria and Johannesburg, actually published in 1778, but the land his last achievement was the destory had been planned whilst Fanny struction of the line E. of Pretoria, his was still in her teens. It was brought object being to prevent the British

of the day. Johnson, who was her of a number of beeches of tremendous friend and admirer until death, designith. Gray first caused attention clared that some passages in Evelina to he directed towards them, with would do honour to Richardson. She attendant appreciation. In 1879 the received £20 in all for this novel, yet city of London Corporation acquired

Burnie, a post tn. and port of entry and clearance of Wellington co., Tas-

reflection through the use of mirrors or a concave system mirrors. In the 'solar engi

Burnley

Burnouf, Emile Louis (b. 1821), an orientalist, was a nephew of Jean Louis B., and was horn at Valognes. He lectured on ancient literature at of the French School at Athens. Among his works are: Méthode pour Etudier la Langue Sanser Essai sur la Péda, Histoire de la Littéra-ture Greçque, and La Mythonopie des Japonais.

Burnouf, Eugène (1801-52), son of Jean Louis B., famous Fr. orientalist, was born in Paris on April 8. He collaborated with Christian Lassen in producing Essai sur le Puli in 1826. He undertook the great task of desirbation the Zond manufact. ciphering the Zend manuscripts, and tbrough his instrumentality a know-He died on May 28, 1852, having been a member of the Académie des In-seriptions and professor of Sanskrit for twenty years. His other works include a Commentaire sur le Yacna, l'un des ? " arses. didad and the Sadé, one the Zend.

Burnouf, Jean Louis (1775-1844).

general symptoms and : the same in both cases.

elassified according to the depth to of B. aims at preventing infection,

bronght to hear on a small area is which the tissues are affected. Dupuy-sometimes used for fusing metals, tren suggested the following classes: etc. The effect may be produced by 1. Where the skin is reddened. A ing is apparent which

ppears quickly; there is mirrors. In the 'solar engi pain at first, hut the conheat reflected from several thousand dition is rapidly cured. 2. Where the plane mirrors arranged on a buge onter skin is destroyed, more or less concave frame is focussed upon a extensive histers containing serum small boiler and utilised in driving an raising it from the true skin. A fair engine for numning operations etc. engine for pumping operations, etc. smount of pain is felt; the outer skin special machinery is provided to keep is cast off after the blister has been the apparatns facing the sun. Archi-pierced, and a new skin forms without medes is said to have burnt the Roman any sear remaining. 3. Where the true fleet of Marcellus before Syracuse skin is partly destroyed. The pain hy concentrating the heat reflected is considerable, black or brownish from several large burning mirrors sloughs occur, and there is danger of upon it. See Lens, Reflection. Burnley, market tn., municipal eo., has healed, a slight scar or puckering and parl. bor. of Lancashire. It is a of the skin is observable. 4. Where co. bor, and stands at the confluence the true skin is wholly destroyed. The of the Brun and the Calder. Charles condition is serious, but is not accom-Townley, whose collection of antique panied by much pain, as the nervemarbles and bronzes reposes in the endings have been destroyed. After British Museum, was born here. Its healing, a deep scar can he noticed chief industries are cotton weaving. 5. Where the soft parts, museles, etc., worsted manufacturing, coal-mining, have been destroyed. 6. Where the quarrying, and hrick-hurning. Pop-97,043. Pop-serious condition, which can usually only he met hy amputation. The dangers from B. include shock, septie poisoning, inflammation of internal organs, and general exhaustion. The Naney and became afterwards director | danger from shock depends upon tho extent of the burnt area; it is estimated that cases in which over one-Essai third of the total hody-surface is seriously affected end fatally. whole nervous system has functioned very rapidly and with great intensity, and caunot undergo repair sufficiently to keep the organism alive. sult is coma, leading to death. danger of sepsis arises from the fact tbat the tissues beneath the skin have been laid open to the action of micro-organisms in the atmosphere. The extent to which the tissues have ledge of this tongue was first brought been laid bare determines the extent within the scientific world of Europe, of the danger, the same precautions He died on May 28, 1852, having been having been taken. Complications a member of the Academic des Inorgans may arise through the loss of the skin's functions, the disturbance of the blood supply, and the possible introduction of germs peculiarly harmful to those organs. Exhaustion from of the system is a natural result of the strain occasioned by the healing process and interference with the French classical scholar, established, a wide reputation by his scholarship, scalds of the throat and stomach. The and is remembered, among his many symptom demanding most immeworks, as the author of a scholarly translation of Tacitus pub. in 1827-33. should be preserved by wrapping the Burns and Scalds, destruction of patient in hot blankets, placing hottissue by dry heat in the letter than the cytemities, and his moist heat in the letter than the cytemities, and his moist heat in the letter than the cytemities, and his moist heat in the letter than t French classical scholar, established nutritive functions, as in cases of s from thirty-six

Local treatment

with a minimum of deformity or scarring. If the hurn he slight, the blisters may he pierced, their contents drained off, the outer skin cut off and the surface treated with a weak solution of pieric acid. In dealing with severe B., care must be taken not to tear affected tissues by rough handling of elothing. The clothes should be carcfully cut off, the whole surface should he treated with an antiseptic, and then the more permanent dressing adjusted. This usually consists of gauze soaked in pieric acid solution and covered by antiseptic wool, the whole heing lightly handaged, as it is desirable to exclude all air, but without unduo pressure upon the injured part. Two affected surfaces must not he placed in contact, as the result might be a union of the two surfaces. In cases where the destruction of the true skin has been extensive, skin-grafting has adopted with satisfactory results.

Burns, Rev. Jabez (1805-76). nonconformist divine, educated at Chester and Oldham Grammar School. While a boy he joined Methodist Now Connexion: 1826 came to London: com-piled Christian's Sketch-Book, 1828 (second series issued 1835): Spiritual Cabinet, 1829. B. did much mission-work on behalf of Scotch Baptists. becoming pastor of a Perth congrega-tion, 1830-5; 1835 pastor to Baptist congregation at Marylehone. He was said to have been the first clergyman to preach teetotalism from the pulpit. He delivered thirty-five annual temperance sermons, heginning Dec. 1839. Memher of the Evangelical Alliance, formed 1845; after 1847 Egypt, and travelled in America, Palestine. Among his works are: ref
Notes of a Tour in U.S.A. and
Canada in 1847: Helphook for Tratellers to the East; The Golden Pot of
Manna (Christian

Christian

Christian 1848; Preacher's

Pastor's Monthly . Sermons, 1842.

engineer of Scottish extraction. received his education up to the age of ten at a national school, then he was sent to work, but he continued his education at night schools and read much. Especially was he at-tracted to the works of Paine, Mill, and Robert Owen. He worked at first in Price's candle works, after which ho was for a short time a page, and finally was apprenticed to an en-Whilst in his apprenticeship

relieving pain, and promoting healing | he adopted his socialistic doctrines. being influenced thereto by his general reading, and also hy the doctrines preached to him by one of his fellow workmen, who was a Frenchman, and had taken part in the Communc. He worked at his trade on land and on board ship, and finally went for a year to W. Africa, after which he spent six months in travelling over Europe. Ho had in the meantimo taken up politics seriously, and had become known as a labour agitator. In 1878 he was arrested for addressing an open air meeting at Clapham, and in 1886 he cleared lumself of the charge of instigating the moh to violence on the occasion when the clubs of the West End had their windows hroken. In the following year, however, he suffered six weeks' imprisonment for his share in the Trafalgar Square riots. In 1885 he had heen unsuccessful as the candidate of the Social Democratic Federation at W. Nottingham. He was a memher of the Amalgamated Soc. of Engineers trade union. He sat on London's first County Council as a Progressive member for Battersea, and in 1892 ho entered parliament as the Lahour member for the same division. In 1889 ho had, together with Mr. Ben Tillet, been the chief organiser of the London Dock strike. Ho retained his seat for Battersea in 1895, and has continued to sit for that constituency down to the present time. He was made President of the Local Government Board in Sir Henry Campbell Bannerman's ministration, 1906, being the first working man to attain to cabinet rank. Many regard his legislation as sound, wis

social legislation share in his period of office, and is ally regarded as a steady and trustworthy minister. He introduced the House and Town Planning Bill in Labours of Burns, Baptist Magazine, Labours of Burns, Baptist Magazine, March 1876; Perthshire Advertiser, February 4, 1876.

Burns, John (b. 1858), was born at Vauxhall, London, heing the second son of Alexander B., an estlyric poet Scotland has ever pro-

est lyric poet Scotland has ever produced, was born Jan. 25, near Ayr. He was the son of a gardener, who later in life turned farmer, and in spite of a hard struggle with poverty, succeeded in equipping his children with a good education. Although Robert had perforce to assist his father in his humble avocation, he still found plenty of time to assimilate so much instruction and reading that by the age of sixteen years he had acquired the elements of what was then renomy, belies lettres, and, of course, his wife Jean Armour, the Bonnie poetry, at that time in a transition Jean of one of his most beautiful state between the ponderous fancies lyrics. Private interest bad also of the Popean school and the tinkling brought him the position of an excise-prettinesses of the Della Cruscans.

Neither of these schools were likely known in Scotland; but for a second to assist a young singer whose native time he found farming a failure, and talent leant strongly towards the retired to Dumfries, where he subnatural, and although we discover sisted on his exciseman's salary which
marked traces of the influence of never rose above £70 per annum. At
hoth in his later work we must regard this period of his life he enthusiastiDetermine the first to few Francis talls. B. as among the first to free English verse from the shackles of formalism which had bound it so long. At the age of sixteen B. was already a minor celebrity in his dist., and his convivial and generous disposition speedily brought him into contact with the holder spirits of the neighbourhood, who regarded him as a species of local laureate. In 1781 he entered with his brother upon the tenancy of a small farm, a venture which proved most unfortunate, so much so that emhittered by his lack of success he resolved to leave his native land and take ship for Jamaica. With the object of purchasing his passage thence he pub. his poems at Kilmar-nock in 1786. The result was a furore of appreciation which dazzled and somewhat unhalanced the young farmer. He was encouraged to pro-ceed to Edinburgh and to publish a second edition there. This he did, and met with a splendid reception from the elite of literary circles in the capital. At many of the houses of the great he was wont to recite his poems to a rapt audience, and his genins was fully recognised. when a man is horn with an ntterance like swift fire he is not as a rule particularly zealous regarding the proprieties, and B.'s habits speedily marked him out as 'impossible' in the circles which he had once illuminated. A vigorous habit of speech and criticism of persons whom their equals had agreed to treat with respect hy reason of qualities too subtle or too difficult of discernment by the Ayr-shire farmer led him into disrepute. and the all too frequent occasions on which he transgressed against decency were too much even for an age of hard drinking, and social tahoo was passed upon him with every show of reason. On the one hand B. was ignorant of the true reading of the term noblesse oblige. On the other his mighty soul soared high above the society folk with whom he was brought into contact, and whom, for the most part, he regarded with good-humoured contempt. Meanwhile the profits of

garded as an 'elegant' education, take the farm of Ellisland near Dum-This included the elements of astro- fries, where he settled in 1788, with cally embraced the principles of the Fr. Revolution, and many of his poems and songs exhibit his hatred of the 'lordlings' who at that period held the peasantry of Scotland in a condition approaching helotage. At the same time it must be recollected that he had not disdained patronage on several occasions, out had certainly accepted it in a spirit of generous faith. His dissipated habits rendered him obnoxious to the 'respectable, and as these grew upon him he hegan to consort with people who, however interesting on occasion or during the hilarity of a drinking-bont, were no companions for a man of his exalted and generous spirit. Deeper he sank into the pit which his own natural, joyous, and trusting disposition had digged for him. Remorse gnawed upon his heart of hearts, and he became gloomy and sullen, with only occasional flashes of his old magnificence; and at the last his sun set in gloom and sadness, for with health and fortune completely broken, he sank to rest at Ayr on July 21, 1796. Like Byron, B. was one of those pocts who are as great as their songs. It was not his to create a social cult which might cluster around which inight cluster around his personality, having for its hasis the imitation of the mannerisms and idiosyncrasies of its idol. His cult was greater. It was and is the cult of the expression of nationality, of all that is virile and spirited in that elder Scotland which sank in a blaze of glory to the sound of his songs. To his countrymen he has left the deathless heritage of a song-craft unequalled in the lyric history of mankind. His lyre has run the gamnt of the emotions, from the whisper of love to the fire-filled chant of war and liberty. In the utterance of no poet have passion and simplicity heen so truly welded. The simple, almost rustic, lines are fulfilled and suffused with a left wening which are sufficiently which we have the sufficient of the sufficient which we will be a sufficient which are sufficient which are sufficient which we have the sufficient which are sufficient which we have a sufficient which we will be sufficient with a sufficient which we will be sufficient with the sufficient which we will be sufficient with the sufficient which we will be sufficient with the sufficient will be suff with a lofty genius which compels the tears of both simple and learned. So . intimate is the combination of artlessness and genius in the songs of B. that in no poet is it so difficult to his volume of poems pnh. in the cap.

trace the true quality of that genius.

had hrought in a very considerable in none is it so clusive. It is ensum, with which he was enabled to woven in the very fibre of the verse,

from which it cannot be untwined. The felicity of B.'s language has probabiy never licen equalled. This is duc not so much to his perfect mastery of his medium as to his brilliant poetic penetration and his swift habit of intuition. But withai he exhibits no impationce with poetic rule, and nicely if naturally observes the propricties of rligthm, diction, and metre. Concerning his position in our poetic galaxy there can be no question. He divides the lyrie crown question. He divides the type crown with Shelley, with whom he is equal in ardour, intensity, and originality, if inferior in imaginative power and mental scope. But had B. possessed Shelley's 'opportunities' his verse state have established a flight and might have exhibited a flight and finish equal to that of the author of Promethcus Unbound. B.'s system of composition consisted of selecting Scottish foik-songs, which he made the basis of new and more poetical versions. But besides this he composed scores of original verses. purely lyrical work is too well known to require mention here. But inis narrative and satirical work is by no means so widely perused. Perhaps means so widery perused. Termaps his greatest work, apart from his songs, is his Tam o' Shanter, which is almost cpic in parts, exhibiting a felicity of phrase and an epigrammatic ability which are far above the subject handled. His Twa Dogs bristles with keen satire against the social and religio-political follies of the time. His Cottar's Saturday Night is truly national in spirit, and strikes the note of all that is exalted and noble in the Scottish character. It only remains to notice B. as a letterwriter. In an age when the epistolary art was at the height of its prolixity and formality, and when explicitness, clarity, and real beauty of phrase were sacrificed to mere pomposity, B. partook copiously of the faults of his time; indeed they appear in him almost exaggerated. But he did not, like so many of his contemporaries. sacrifice feeling to bombast, and his tenderness was too much the resuit of genuine human affection to decenerate into maudlin sentiment.
These qualities of humanity and tenderness appear throughout his works to dominate even the waywardness which was perhaps his principal characteristic. He was a great poet, a great lover of humanity, and a great natural man; and his faults were the faults of his qualities. See R. Chambers, Life and Works, new ed., 1896; A. Lang's ed., 1896; W. E. Henley and T. H. Henderson, Podry of Robert Burns, 4 vols., 1901; Sir Leslic Stephen, in Dict. of Nat. Biog.; T. H. Henderson, Robert Burns, 1004.

Burnside, a suburb of Adclaide, S.

Australia; pop. about 1500. Burnside, Ambrose Everett (1824-81), American soldier, a native of Liberty, Indiana. Ho became a Liberty, Indiana. Ho became a member of the Military Academy of the U.S.A., and at the close of the Mexican War graduated, 1847. He resigned his commission in 1853 and adopted the manuf. of firearms. Three years later he invented a breech loading rifle. The Illinois Central Railway employed his services till the Civil War broke out. Ho took a prominent part in the first battle of Bull Run, and was appointed brigadier-general of volunteers in 1861. He sailed in the following year for the N. Carolina coast, and in the ensuing campaign won the victories of Roanoke, Newbern, and Fort Macon. Shortly afterwards he was made major-general. U.S.V. President Lincoln appointed him to succeed Maclellan to the army of the Potor -defeated at

and aroused oppression of press opinion. The failure of the Burnside mine 'caused his resignation in 1864, and in 1866 he became governor of Rhode Is. He was a republican member of the con-

He died at

gress till his death. Bristol, Rhode Island.

Burnside, Helen Marion (b. 1844), artist and poet, exhibited at the Royal Academy in 1863. From 1880 to 1889 she was designer at the Royal School of Art Needlework. For the court for room she was addition at next five years she was editor at Messrs, Raphaci Tuck. She also wrote many songs and magazine stories, but she is known more especially as the writer of children's books.

Burnt-Ear, or Uredo carbo, a species of fungus of the order Uredinæ which is particularly destructive to corn. The seed coat of the grain attacked is covered with a black dust, while the Interior seems to be untouched, but

is found to be abortive.

Burntisland, a Fifeshire scaport. It is situated on the Firth of Forth, 5 m. N. of Granton. The opening of the Forth Bridge seriously damaged its trade, which had depended upon steam forry work. Coal is shipped in consider. consider

Burnt ment.

in Italy

taining oxides of iron and manganese. The substance is brownish-yellow in colour, which deepens to a reddishbrown when the earth is burnt.

Burnt Stones, old carnelians possessing a glowing red colour when held to the light. They are found in ruins, and have a dull appearance externally. They appear to have been acted upon by fire.

Burr, Aaron (1756-1836), an American legislator, and native of New Jersey. At Princeton College. where his father and grandfather had occupied the presidency, he graduated. He joined the patriot army in 1775, and two years later was rewarded for his valour and abilities by promotion to lieutenant-colonel. He retired in 1779, and was called to the har, where he quickly assumed a prominent position. From 1788 to 1790 he was attorney-general, and United States senator from 1800 to 1804. He fought a duel with Alexander Hamilton, who was responsible for his defeat in obtaining the governorship of New York, and killed him. Flight to S. Carolina was necessary till the exeitement lessened, at which time he returned. An attempt to raise a revolution in Texas in order to establish a republic there, resulted in his arrest. He was aequitted, but nevertheless sustained grievous social ostracism. A return to his practice failed hopelessly, and he died miserably on Staten Is. During his last years he was main-

tained by a friend.

Burr, William Hubert (b. 1851). an American engineer, was horn at Watertown, Connecticut. In 1899 he was appointed a member of the Isthmian Canal Commission to report upon a route for the Panama Canal; in 1904 he was appointed a member of the commission to construct the canal; and in 1905 he was appointed a member of the International Board of Consulting Engineers to determine the plan of the canal. He became professor of engineering at Harvard University in 1892, and at Columbia University in 1893. He has done important engineering work at New York and elsewhere, and published a number of works on engineering.

Burra-Burra, a celebrated copper mine in S. Australia. It is situated N. hy E. of Adelaide, and is 101 m. distant. Ore to the value of £4,000,000 has been mined, though operations are no longer so remunerative.

Burrard Inlet, a narrow inlet of British Columbia, sitnated at the S.W extremity. It forms a magnificent harhour, whose value has been en squirrels, and other hanced by the inauguration of the there it makes its nest. Canadian Pacific Railway.

Bur-reed is the name applied to the species of Sparganium, of the order Sparganiacee, plants common to Britain and Australia. S. simplex and

Burritt, Elihu (1810-79), American philanthropist, commonly called 'the learned hlacksmith.' He was a native of New Britain, Conn. His grandfather and father had served in the revolutionary army. His education was selfohtained from whatever hooks were available at home, which was a shoemaker's bench. He became apprenticed to a smith at the age of sixteen, and adopted smith work as his trade. He was able to indulge a passion for literature in any form in his spare moments at the forge, while for a short time he attended a school kept hy his brother Elijah. Inthis desultory fashion he conquered Lat., Gk., Fr., Spanish, and Ger., and by the time he was thirty years of age could speak fifty languages. He gradually acquired fame with his increasing store of knowledge, and soon embarked upon a lecture tour to various places in U.S.A. and Europe on helialf of peace. He organised the Friends of Peace at Brussels, Paris, Frankfurt, London, Manchester, and Edinburgh, and published innumerable pamph-lets. He founded the Christian Citizen at Worcester to advance his views. He returned to America and died at New Britain.

Burroughs, John (b. 1837), American poet and authority on natural history. He was horn at Delaware, New York. Among his early call-ings were teaching, journalism, and farming. In the treasury dept. of Washington he served as a clerk for Washington he served as a elerk for nine years. His early productions were Notes on Whilman and Wake Robin. Later he produced Birds and Poets. Locusts and Wild Honey, Signs and Seasons, and Ways of Nature, in prose, while in verse he puh. a vol. called Bird and Bough. His later works are marked by a deeper philosophy than is shown in those previous.

those previous. Burrowing Owl, or Spectyto cunicularia, is a bird which helongs to the family Strigidæ, and is a native of America. It is about 9 in. long, has no ear-tufts, and its legs are long and poorly feathered. It inhabits burrows and holes of cavies, lizards, foxes, squirrels, and other animals, and

Burrows, Montagu (b. 1819), was b. at Hadley, Middlesex. He entered the navy, and rose to the rank of commander, 1852. He then went up to Oxford, taking a double first, and S. ramosum occur in ditches and from 1862 till 1900 was Chichele proshallow ponds of Britain. shallow ponds of Britain.

Burriana, a Spanish tn. and seaport situated on the E. coast, in the prov. of Castéllon de la Plana. Its pop. is 12,962 (1900). Oranges are the chief export, while there is some trade in oil, grain, and wine.

fessor of modern history. He became a fellow of All Souls in 1870, and published Worthies of All Souls in 1874. His other works include: Memoir pop. is 12,962 (1900). Oranges are the fellow of All Souls in 1870, and published Worthies of All Souls in 1874.

His other works include: Memoir of Admiral Sir H. Chads, G.C.B.. Commonwealth, 1881; Wiclif's Place it was found to be more vigorous than in History, 1882; Life of Admiral hefore. It is now, however, non-Hauke, 1883; History of the Cinque political, and simply a social function. A braneb of the society aims at the History of England, 1893; History of Great Burseraceæ is a natural order of Britain, 1895.

Burrus, Afranius, a native of Gaul who became a Roman soldier of distinction. He was the trusted agent first of Livia and then of Tiberins and Claudius. He had a share in the edncation of Nero, and aided Agrippina in hringing him to the throne in preference to Britannicus. When the partisans of Britannions were punished B. succeeded to the important command of the prætorian guard. He was put to death by Nero in A.D. 63.

Bursa, a synovial sae or elosed space containing liquid between two moving surfaces of the body. function is to lessen the effects of friction, and B. may either be permanently situated for that end, or developed in a part where friction has caused a certain amount of irritation of the tissues. B. may he classified as: (1) B. between the covering skin and bony projections, as at the point of the elbow and at the knee-cap; (2) B. between tendons and the surfaces they cross: (3) B. between tendons and the walls of osteo-faseial tunnels.

Bursar, a keeper of the purse (bursa). This, however, was the literal interpretation, and to-day its official adoption is in reference to the controller of the treasury of a college or school. It the treasury of a college or school. It also applies to the holder of a scholarship in certain secondary schools. Burse, is the name given to the

purse of the Lord High Chancellor of England.

Bursaria is a genus of Protozoa of large size, in which the hody appears to be convex above and concave

below. Lamarck described five species of these fresh water creatures, of which B. truncatella was one.

Burscheid, a tn. of Prussia. It is situated on the R. Wnpper, and manufs, woollen goods and plush. Its

pop. is 6884.

Burschenschaft, the name of a famous association of students of the universities of Germany. Its object is to encourage and engender patriotism and a Christian bearing, and it was instituted as an effect of national feeling in Germany caused by the War of Liberation. Its origin began at Jena, and the grand-duke of Saxe-Weimar bccame a patron. During the revolu-tions of 1830 the B. took a prominent part, notwithstanding the crushing policy towards it of the Carlsbad Decrees. In 1833 the hody was sup-pressed, though without the desired result, for in 1848, when all restric-tions levied against it were removed,

diectyledonous plants which are found in the tropics, and yield balsam, resin, and gum. The flowers are small and regular, with the disc usually annular, in parts of four or five, with a syncarpous gyncecinm consisting of three to five carpels, with two ovules in each loculus. The fruit is a drupe or a capsule, and the bast contains resin passages. Two well-known resin passages. Two well-known species are Boswellia serrata, which yields olibanum, and Commiphora abyssinica, which yields myrrh.

Bursitis, inflammation of a bursa. It may be acute, when pus forms after an injury or strain, as in the knee-cap. The joint should be eleansed and absolutely rested for some time. B. may also be chronic, when a large amount of watery fluid collects at a joint, with possible formation of eoneretions within the hursa or thickening of its walls. This is usually due to pressure constantly applied to a joint as in 'housemaid's knee.' The joint should he rested and the bursa drained. The period of resting should he prolonged as much as possible, as there is always a likelihood of the eondition being established again if the joint is subjected to the same usage as formerly.

Burslem, municipal bor., parl. hor., and market tn., is situated on the Grand Trunk Canal, 20 m. N.E. of Stafford, in N. Staffordshire, England. It is within the parl. hor. of Hanley, and on the N.S. Railway. Area 1862 ac., and pop. 38,766. It is the oldest of the control of the con six that forming the potteries, and so has been named the Mother of the Potteries.' It produces porcelain, parian, encaustic tiles, etc. There are Potteries. also colour works and a glass factory. It was the hp. of Josiah Wedgwood, 1730-95, the great improver of the carthenware manuf. of Staffordshire. The Wedgwood memorial, 1865, comprises a school of art, a free library, and a museum. The tn. is very old. In the neighbourhood are coal and ironstone mines.

Bürstadt, in Germany, in the grand dnehy of Hesse Darmstadt, 11 m. E.

of Worms; pop. 4000.

Burt, Thomas (b. 1837), Labour leader and M.P. for Morpeth since 1874, was the son of a Northumberland miner. After a scanty education in village schools, he worked in a coal mine from ten years of age till 1865, when he was elected secretary of the Northumberland Miners' Mutual Provident Association. He was president of the Miners' National Union in 1882.

1891. He was one of the British repre- On his return home he pub. an imsentatives to the Labour Conference portant work on Sind, together with convened by the Emperor of Gerthree other books. In 1853 he made a convened by the Emperor of Germany in 1890. From 1892 till 1895 he many in 1890. From 1892 till 1895 he was parliamentary secretary to the

Button, Sir Frederick William (1816-1900), British painter, born in co. Clare. Educated at Dublin under the direction of Mr. Brocas. Elected associate of Royal Hibernian Academy when only twenty-one years of age. In 1842 he began to exhibit at the Royal Academy. He travelled at the Royal Academy. He travelled much on the continent of Europe, Kensington.

Burton, John Hill (1809-81), Seottish historian, born at Aberdeen. He graduated at Aberdeen University, and was articled to a writer, but his articles were cancelled, and he went to Edinburgh to qualify for the bar. His practice was not large, and he had to devote himself to literature. During this time he wrote for the Edinburgh Almanac, Westminster Review, and contributed to the Cyclopædia of Universal Biography, and Waterston's Outcrease is the confidence of he was appointed secretary to the Prison Board of Scotland, and became a prison commissioner. He held office as historiographer royal for Scotland, and was LL.D. of Edinburgh Uni-versity, and D.C.L. of Oxford. He contributed to Blackwood's Magazine and the Scotsman, and his chief works

Burton, Sir Richard Francis (1821-90), British explorer, born at Borham House, Herts. He spent most of his childhood in Italy and France. He was concerned the Indian nrmy in 1842. During his stay in India he studied assidnously the vurious Oriental languages, and rapidly reached profedency. He was appointed assistant in the Sind survey, which enabled him to mix with the people. He frequently passed as a native in the critical professional profess

and of the Trades Union Congress in | knowledge of eastern life and customs. pilgrimage to Mecca, which was to make him famous. He went disguised was parnamentary secretary to the make min lamous. He went disputed bearing a sa an Indian Pathan. The book he member of the Privy Council in wrote, called The Pilgrimage to Al-1906.

Burton, Sir Frederick William (1816-1900), Sir Frederick William (1816-1900), British painter, born in exploits. His next journey was into concern Educated at Dublin under the Some Council country in Factor Africa. the Somali country in Eastern Africa. He went to Harrar, the Somali cap. which had hithertonever been entered by a white man, and stayed there four days. Afterwards he vanished into the desert, and nothing was heard of him for four months. He next served on General Beatson's staff in the Crimea. much on the continent of Europe, for four months. He next served on where he gained an intimate knowledge of the works of the old masters. In 1874 he was appointed director of the British National Gallery. Elected associate of the R.S. of Painters in Lake Tanganyika in 1858, and Speke, Water-Colours in 1855. He was during R. sillness, discovered victoria knighted in 1884. He died in Nyanza. In 1861 B. was made consultational and the region of the consultation of of Fernando Po, whence he was of Fernando Po, whence he was shifted successively to Santos in Brazil, Damascus, and Trieste, which post he held till his death. B. married Isabel Arundel in 1861, and she accompanied him henceforth ou all his journeys. He received the gold medal of both Fr. and Eng. Geographical Societies. He was master of thirty-five languages and dialects. He thirty-five languages and dialects. He was knighted in 1868. He wrote was knighted in 1668. He wrote numerous books, chief of which are: Wanderings in West Africa, Abcoluda, and the Cameroons, First Poolsteps in East Africa, The City of the Saints, Hindu Tales. His chief work is his translation with copious notes of the Arabian Nights, 1835-88. He also trans. The Lusiads of Camoens. His wife wrote a story of his life, and also built an Arab tent of stone and marble to his memory at Mortlake. See also Life by T. Wright, 1906.

Burtou, Robert (1577-1640), a well-known English writer, famous for the

known English writer, famous for the Analomy of Melancholy. He was born at Lindley in Leieestershire on Fcb. are: The Book Hunter, The Scot S. He received his education prin-Abroad, Cairngorm Mountains, Politicipally at Nuneaton Grammar School tical and Social Economy, and, above and later entered Brasenose College, all, History of Scotland from Agrit In 1599 he became an elected student cola's Invasion to Revolution of 1688. at Christ Church. In 1816 he became 8. He received his education principally nt Nuneaton Grammar School In 1599 he became an elected student at Christ Church. In 1616 he became year of St. Thomas, and in 1630 rector of Segrave in Leicesterslüre. He held both livings until his death. childhood in Italy and France. He was Some years previous to his death he

influence of Democritus and Hippo-70 m. S.E. of Hamadan, in fertile crates upon his proposed work, and also gave his reasons for writing it. In Burwood, a municipality of New South Wales, Australia, 7 m. W. of choly, and divides it up into its Sydney, on Great Southern Railway; various kinds.

book.

Burton-in-Kendal, a tn. and parish in the district of Kendal, adjoining Furness, and belonging to Lancashire. B. is 10 m. S. of the town of Kendal, and is situated on a limestone ridge with large pockets of iron-ore in its

vicinity.

Burton-upon-Trent, a municipal co. and parl. bor. in S.E. Staffordshire, England, is situated on the modern histor river Trent, and Trent and Mersey His works in Canal, W.S.W. of Derby. It is on the edition of Gil Midland and North Staffordshire Rail-Area 4202 ac. Pop. 50,386. It is an old town formerly the seat of a 1892; and sev Saxon abhey. In 1801 the pop. was the later Ron not much over 6000. Its rapid growth dates from the opening of the Midland Railway in 1839. Brewing of ale, the staple industry, commenced in 1708. The prin, brewerles are those of Bass and Allsopp, the former of which covers 200 ac. of ground. B. has also coal, fire-clay, and potteries, iron and boiler works, copper works, The town plaster, and cement mills. hall, huilt in 1896, was presented to the town by Lord Burton. Burtscheid, a tn. of Rhenish Prussia,

and a suburb of Aachen (Aix-la-Chapelle). It manufs. woollens, and

Kajeli. The highest mts. are in the W. where they reach the height of \$530 ft. Most of the land surface is covered with forests and prairies. The only important exports are cajeput oil and timber. The inhab, are chiefly Malays on the coast, and Chinese and other races in the interior. Pop. about 15,000.

Burujird, important trading centre in Persia, in the prov. of Irak Ajemi, N. of the R. Mandego, in the prov. of

pop. 7520.

samine the and then goes is the co. of Lancashire, England. It is on the Lancashire and Yorksbire metancholy. The Melancholy was more popular and more widely read during the 17th. The land been during the 17th. The and is a clean, well-built town. curious learning found in Tristrom. The staple industry is the cotton Shandy had been pilfered from this industry. There are also extensive book, and it was Ferrier's cottion of works for bleaching, calico-printing, Tristram Shandy, in which he pointed out Sterne's unacknowledged obligation to be tween the Irwell and the Roche, it had been during the 17th. The staple industry is the cotton Shandy had been pilfered from this industry. There are also extensive book, and it was Ferrier's cottion of works for bleaching, calico-printing, Tristram Shandy, in which drew attention to Burton, which drew attention woollen manufi., and in the dist, are tion to Burton, which drew attention woollen manuf., and in the dist, are once more to this almost forgotten coal pits and stone quarries. B. has four recreation grounds well laid out. It is connected by canal with Manchester and Bolton.

Bury, John Bagnal (b. 1861), historian, was a son of Rev. E. J. B., canon of Clogher, and was educated at Trinity College, Duhlin. came professor of modern history at Dublin in 1893, regius professor of Greek in 1898, and regius professor of modern history at Cambridge in 1902.

1896 - 1900 : Nemean and

the later Roman empire.

Burying Beetles, or Necrophorus, constitute a genus of the family of Silphidæ. They are known also as Necrophorus. carrion and sexton beetles, from their habit of burying small vertebrates by digging the ground from beneath the carcase until it sinks; the female then lays her eggs in the decaying matter. They make a curious chirping sound hy rubbing the abdomen against their wing-cases.

Bury St. Edmunds, parl, and municipal hor., is situated on the R. Lark, 28 m. E. of Cambridge, in the co. of Suffolk. Area, 2947 ac., and pop. Chapelle). It manufs, woollens, and suffolk. Area, 2947 ac., and pophas sulpbur springs and baths. Pophas sulpbur springs and baths. Pophas surjusted in Buru Island, an is. of the Dutch E. lagric. implements, and a trade in Buru Island, an is. of the Dutch E. lagric. produce. It is the depôt of the Indies, belonging to the residency of Suffolk regiment. There are barracks abbey, was founded by Canute, the board is marshy. The longest riv. is famous Dan. King of Britain, to combatted in the surjusted in the surj

rammar ard VI. ardiner. of Lon-Bacon.

lawyer and statesman, and many other eminent men. The hor, returns one member to parliament.

Busaco, a ridge about 1800 ft. high.

Here the British ! Portugal. Beira. under Lord Wellington repulsed the French under Massena in Sept. 1810.

Büsbach, a tn. with coal mines and woollen manufs. in the Rhine prov. of

Germany; pop. 5800.

Busbecq, Augier Ghislen de (1522-92), a Flemish diplomat and traveller, was horn at Commines, and received a varied education at the universities of Louvain, Paris, Venice, and Padua. Though he held various offices at the conrt of Emperor Ferdinand I., and was employed in a series of important negotiations. he is now chiefly remembered for his two visits to the court of Soliman II., Sultan of Turkey, His invaluable at Constantinople. letters dealing with these emhassies, 1556-62, serve to illuminate Turkish politics of the time. It seems likely that he intrigued further to embroil the suitan with the Shah of Persia in order to stop the former from pursuing his aggressive opera-tions near Constantinople. 'Tis only the Persians stand between us and ruin,' he said, 'the Turk would fain he upon us, but he keeps him back.' In his journeys eastward he was accompanied by an artist who made drawings of rare animals and plants. and he came back to Europe with a and he came back to Entole with a fine hotanical collection, hesides many MSS. and coins. On his return to Vienna in 1562 he hecame tutor to the children of Emperor Maximilian II. His Discourse of the State of the Ottoman Empire and his accounts of his travels in Turkey, contain material that is of the utmost value to the historian of Eastern Europe.

Busby, the head-dress of the hussars and horse artillery of the British army. It consists of a fur cap with an upright plume in front and a short bag of the same colours as the facings of the regiment hanging from the top down the right side. The name is also used for the rifle head-dress, a folding cap of astrachan, and colloquially for the bear-skin caps of the footguards and fusiliers. The name is probably of Hungarian origin, and the hag a survival of the Hungarian long padded hag which hung over the long right shoulder to ward off sword-cuts.

Busby, a Scotch vil. on the horders of Renfrewshire and Lanarkshire, on White Cart Water, 5 m. from Glasgow. on Caledonian Railway. Cotton-mill, print-works. Pop. about 2000.

Bushy, Richard (1606-95), a noted Eng. schoolmaster, educated at Westminster and Oxford; from 1640-95 he was headmaster of Westminster School; he is said to have educated more distinguished men than any other teacher; among his pupils were Dryden, Locke, Robert South, Atterhury, Henry, and George Hooper. A

severe disciplinarian, his name has hecome a byword for harshness, but he was kind-hearted and charitable to the poor. At the Restoration he was made prebendary of Westminster. His works were mostly school editions of the classics. See Life of Philip Henry, by Williams; Evelyn's Memoirs, iii.; Seward's Ancedoes of Dis-tinguished Persons; Warton's edition

of Pope's works. Busch, Julius Hermann Moritz (1821-99), a German author and journalist, was horn at Dresden. He entered the university of Leipzig in 1841, and there studied theology and philosophy. but soon drifted into philosophy, but soon drifted journalism and literature. ahout thirty years of age he travelled extensively in America, Greece, Egypt, and Palestine, and published the results of his travels. From 1856 onwards he wrote for the Grenzboten at Leipzig, the organ of the Nationalist party. Then, after a short connection with the Augustenburg party Schleswig-Holstein, he was employed in various capacities by the Prussian government. He served under Bis-marck, and published several hooks concerning the great German statesman. In 1878 he published Graf Bismarck und seine Leute Während des Krieges mit Frankreich, which, as the title indicates, gave an account of Bismarck's doings during the war of 1870-71, when B. (as one of his press agents) was closely associated with him. This and other writings were incorporated in his important Life of Bismarck, first published in 1898. It was re-issued in an improved form a year later. B.'s Unser Reichskanzler, 1885, dealt mainly with the administration of foreign affairs. He died at Leipzig.

Busch, Wilhelm (1832-1908). German comic artist and caricaturist, was horn at Wiesendahl, Hanover: studied at academies at Düsseldorf. Antwerp, and Munich. In 1859 he drew humorous sketches for the Fliegende Blätter, the leading German comic paper. He was the founder of modern German caricature. In 1860 he published the first of a series of humorous illustrated poems-Max und Moritz-followed by Der Heilige Antonius von Padua, Fromme Helene, Hans Hucklehein, and others. humorous drawings and caricatures are exceedingly elever, and are notable for their simplicity. The types created by him are hywords in every German household. He enjoys the same reputation for nonsense rhymes as Edward Lear in our own country.

Büsching, Anton Friedrich (1724-93), Ger. geographer and theologian. Professor of philosophy at Göttingen, 1759; minister of Protestant congregation in St. Petersburg, 1761; went to Berlin, 1766, as a director of a gymnasium. One of the creators of the Earth (1754-92) was the most complete and scientific work of the kind. and was translated into many lan-Wrote also Magazine of guages. History and Geography, 1767-93; Biographies of Celebrated Persons; History of Lutheran Churches in Poland and Russia, 1784-7. See his Lebensgeschichte, 1789.

Büsehing, Johann Gustav Gottlieb (1783-1829), a German antiquary and man of letters, son of Anton Friedrich B., was born at Berlin. In 1811 hc was appointed royal archivist at Breslau, and in 1817 professor of archæology at Breslau University. His numerons publications include Deutsche Gedichte des Mittelalters

(3 vols.), 1802-25.

Busehmann, Johann Karl Eduard (1805-80), a German philologist, born at Magdeburg. His philological re-searches were chiefly concerned with the languages of Central America, among his works heing Ueber die astelischen Orlsnamen, 1853; Die Spuren der astelischen Sprache im nordlichen Mexico, 1859; and Die Zellus der Sprache in Sprache im nordlichen Mexico, 1859; and Die Zellus der Sprache im nordlichen Mexico, 1859; and Die Zellus der Sprache im der Sprache in Sprache im der Sprache in Sprache Völler und Sprachen neumexicos. He was associated in philological work first with Wilhelm von Humboldt, and afterwards with Alexander von Humboldt, assisting the latter in Kosmos and other He edited the Ucher die Kawisprache of Wilhelm von Humboldt, and also wrote on the Atha-pascan and Apache languages, as well as Grammatik der sonorischen Sprachen, 1864-69. He beeame libra-rian of the Berlin Royal Library in 1832, and a member of the Academy of Science in 1851.

Busenbaum, Hermann (1600-68), a famons Ger. Jesuit, b. in Westphalia. and

anelng regici peared later,

Bush, a name given in British colo- loung, snowing that the place was an mes, particularly in Australasia and S. old Elamite settlement. Pop. 27,000. Africa, to tracts of land covered with

brushwood and shrubby vegetation.

Bush Antelope, Bush Buck, or

Tragelaphus sylvaticus, is a species of
harnessed antelope, but it has not the white stripes common to its relatives. It belongs to S. Africa, and is a member of the family Bovide.

Bushel (from Gk. πυξος, a box tree, also its wood through Old Fr. boissel) is a dry measure used for corn, fruit, etc. The imperial B., instituted in 1826, modern geography, his Description of measures 2218.2 euble in., and holds 80 lbs. of distilled water (temperature 62° F.; barometer, 30 in.). Onc B. is equal to one eighth of a quarter and to eight gallons.

Bushey, a small vil. in the eo. of Hertfordshire, 16 m. N.W. of London, and 11 m. S. of Watford on the L. and N.W. Railway. There is a fine art

school here, estab. by Sir Hnbert Herkomer in 1882. Pop. 2100.

Bushey Park is a royal park on the R. Thames In the S.W. of the co. of Middlesex, England. It was occupied by William IV. when Dnke of Clarence. The famous triple avenue of limes and horse-chestnuts, 1 m. long, was planted by William III. The park contains a national physical laboratory.

Bushido (' milltary-knight-ways or way of the warrior '), the code of honour of the Samural, or military class, of Japan. It corresponds with European chivalry, and had a similarly feudalistic origin, coming first into prominence in the 12th century. Poem-composing pastimes, according to a 16th century set of rules, are not to be engaged in by

Samural. Bushire, also written Bushehr. Abushehr, and often trans, as 'father of the elty,' is a prin. scaport of Persia, situated on the northern shore of the Persian Gulf. It occupies the northern end of a peninsula, and is encircled on all sides except the S. by the sea. The climate is very hot in the summer months, and is unhealthy. The city is deficient in water, and that required for drinking has to be brought from wells 2 or 3 m. distant. distance the city presents a beautiful appearance, but on closer examination the streets are found to be narrow. filthy, and badly paved. Most of its export trade is with Britain and her colonies. Chief exports are opium, Moralis, which went through fortygums, and horses. B. is the headquarters of the Eng. naval squadron
real opposition till it appeared in
Lyons and Cologue, 1716-33; condemned to be burnt by parliaments of
clief station of the British-Indian
Parls and Tou

vicinity, indistinct the inscriptions have been

Bushmen, or Bosjesmans, a nomadic people of S. Africa. Some connection has lately been made between the B. and the Pigmy peoples inhabiting forests of Central Africa. The B. are now mostly found in the dists. extending from the inner ranges of the mts. of Cape Colony, through the Kalahari Desert, and thence to the dists. ahout the Oramho R., N. of Damaraland. Their language appers, sometimes to the numproaches that of the Hottentots, and is monosyllabic. Its chief peculiarity game in large gangs, sometimes to the numproaches that of the Hottentots, and is monosyllabic. Its chief peculiarity gaments with the police. The state only count up to two, and after that numbers are expressed by rooting them out. The most famous many. In appearance they are of B. were the Kelly gang of four men. very small stature, with a long and In 1879 they held up the village of low skull, and large and prominent Verilderic, New South Wales, but cheekhones. They are of a dirty when repeating the exploit in the rellow colour. Their only clothing, following year at Glenrowan, in consists of a piece of skin in a trival angular form, which is passed under the legs and tied round the waist. The women wear long skin wraps. The dwelling-places of these people consists of low huts made of reed mats, or holes in the earth. Their household the waist of low huts made of reed mats, or holes in the earth. Their household the substantial and consider a family of holes in the earth. Their household in the hotel and three shot. All wore heavy armour. Ned Kelly, the sole survivor, was hanged at Mcloourne. Species of Formicarilde, a family of holes in the earth. Their household in S. and Central America. The B. resembles the hutcher-hird (art.) in its method of filling its larder by hunting, using for weapons the primitive bow and poisoned arrows. They hunting, species of Formicarilde, a family of hunding species of Formicarilde, a family of hunding victims on thorns.

Busiris, mythical king of Egypt, and the could only avert famine hy carrificing a foreigner yearly to be a great procedular to the could only avert famine hy carrificing a foreigner yearly to be a great procedular to the could only avert famine hy carrificing a foreigner yearly to be a great procedular to the could only avert famine hy carrificing a foreigner ye hneeves, snakes, trogs. Matter, and the seer, snakes, trogs. Matter delical less. He commenced by sacrificing cies. B. are intelligent, musical, and fond of dancing, and are passionate Hercules for this purpose, but was lovers of freedom. There is practically no tribal organisation. Sometimes individual families unite and those a king, but this is only temporary. They have no concrete idea of God, but believe in evil spirits and supernatural beings: most B. carry charms. On the death of a tribesman College, London, and Trinity College, London, and Trinity College.

Church at Hartford, where he soon | Busk, Rachel, sister of Hans B., was for the depth of his theological write interest in strength of the took an active interest in strength of the college of the tree of partial college of the college of the tree of partial california (afterwards a university). Among other publications are Folksome of his chief works are: Christian lore of Rome, and collections from the Nurture, Nature and the Super-East and the Tyrol, natural, The Vicarious Sacrifice, and Buskerud, a bailiwick of Norway, Cod in Christian contains

ring the of comedy. In 1815 Bussa, se

martial law was proclaimed in this district, and a determined effort was

insects, snakes, frogs, lizards, and by sacrificing a foreigner yearly to honey being some of their delica- Zeus. He commenced by sacrificing

shpernatural beings: most B. carry movement. Hewas entrated at Allig's charms. On the death of a tribesman college, London, and Trinity College, a pile of stones is resred on the spot Cambridge. Called to the bar in 1841; and then the whole family deserts the made high sheriff of Radnorshire in home. Northward the B. appear to inversity and lectured on the voluncondition. Rude examples of their art term movement. He helped to revive still exist in caves of South Africa.

Bushnell Morred(1809-25) arrivant familiar with next leaver terms also Bushnell, Horace (1802-76), eminent, familiar with naval construction, and American theologian, was born at was the first to advocate the estab-Bantam, Connecticut. He graduated lishment of life-ship stations. He at Yale in 1827, and in 1833 was helped to found the School of Cookery ordained pastor of the Congregational at Kensington.

hecame famous on account of his re- a well-known writer and traveller, markable power as a preacher and She was extremely well versed in the for the depth of his theological writ- folklory of many largean countries.

God in Christ. For the latter he was in the diocese of Christiania, containcharged with heresy, and unsuccessful ing an area of 5790 sq. m. and a attempts were made to bring him to pop. of 112,600.

Buskin, a half-hoot or high shoe Bushrangers, in Australia, a class of lacing tight to the leg; used largely armed robbers, originally consisting hyanet tragedians in order to increase of runaway convicts. They formed a their height. It is opposed to soccus districts (sock), the light shoe worn by actors

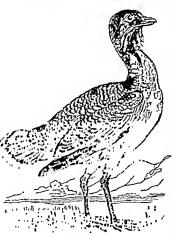
Bussa, see Boussa. Bussanga, see Borgu. Bussora, see BASPA.

151 Bust Bute

Bust (from the Low Lat. bustum), | is a head and shoulders representation of a person carved in the round. The Greeks used to carve ideal Homers and Sapphos, but the B. of Pericles is almost the earliest anthenticated portrait. Life-like Bs. of the Roman emperors, most of them set on a pedestal, may be seen at the British Museum. A B., of course, may be carried out in any material, marble, hronze, etc.

Bustamite, a variety of the mineral rhodonite (MnO.SiO.). B., in addition to the silica and manganese, contains also from 9 to 15 per cent. of lime. It is grevish-red in colour and erystallises in the triclinie system.

Bustard is a word derived from the Latin Avis, bird, tarda, slow, and is applied to the family Otididæ. Olis tarda, the great B., is now found only in temperate continental Europe, and



BUSTARD

as far E. as Persia, but was formerly known to be the largest land-fowl of The male bird measures Britain. about eight feet across the wings and four from its bill to its tail. It left England in 1838.

Busto Arsizio, a tn. of Northern Italy, and situated 20 m. N. of Milan. It has an interesting old church and manufs. cotton thread. Pop. 9300.

Butan, sec BHUTAN. Butane, the name of two hydro-carbons having the formula C₄H₁₀. B., CH₂CH₂CH₂, is an inflammable

similar properties with boiling point about -11 5° C.

Butcher, Samuel Henry 1910), classical scholar, was born in Dublin, a son of the late Samuel B., hishop of Neath. He was educated at ridge, and in

as professor resigning in

1903. He was a Unionist M.P. for Cambridge University from 1906 till Aristotle's Theory of Poetry and the Frine Arts, with a critical text and Translation of the Poetics, 1895.

Butcher-bird is the name given to members of the shrike family, or Lanidæ, which impale the small Lanidæ, which impale the small animals they catch for food on thorns until they require them. L. excubitor is the great grey shrike, L. minor the

lesser grey shrike. Butcher's Broom, or Ruscus aculeatus, is a European species of Liliaceæ which grows as a shruh in Britain. It is noted for its curious branches, which are phylloclades arising in the axil of a small scaly leaf. The phylloclade resembles a flattened leaf in the middle of which the flowers are borne in the axils of minute scaly leaves.

The flowers are diclinous, and the

fruit is a berry.

Bute, John Stuart, third Earl of (1713-92), was the son of the second Earl of Bute, and of the daughter of the first Duke of Argyll. He was born on May 25, 1713, and succeeded to the title in 1723. He was elected as a representative peer of Scotland in 1737, but made no stir in the political world, and retired to his home in Bute, where he lived until, after the '45, he took up his residence in England. His introduction into a prominent part in English court life was practically accidental. He was called upon to perform some trivial service for the Prince of Wales in a moment of emergency, and immediately became a great friend of the prince and princess. After this date, 1747, he was constantly in attendance on the Prince of Wales, and bad great infinence with him. On the death of Frederick his influence over the young Prince George was very great, and it was he who instructed the prince on the lines of Bolingbroke's patriot king and gave f the power

Between .

took a very activo part in political negotiations, but was practically a political nonentity save for his influence when the death of George II. raised him to a position of permanent importance as the confidant of the new king in 1760. He immediately gas with boiling point 1°C., and new king in 1760. He immediately imbulane, (CH.), CHCH1, is a gas of began to carry out the policy in which he had already instructed one of the worst which has ever been George III., of making the king of known in English politics, and indeed overwhelming importance, of lessening the authority of parliament, and of smashing the Whig oligarchy. His methods were effective even though family life, however, was above rethey were not on the surface apparent; proach, and by a circle of intimate the internal jealousies of the cabinet friends he was greatly and justly ware used to spread dispursion. Pitt admired were used to spread disruption. Pitt admired. tinuary being nurnt. He was scurril: The is, is celebrated for its salubrious only attacked in the press and by climate, which makes it a favourite recarbons, his relationship with the sort of invalids. Pop. 12,162. Rotherprincess-mother was made the subject of vile scandals, in which there the chief in. Mt. Stuart, 4 m. S. of was not an atom of truth, and to Rothesay, is a scat of the Marquis of crown everything, in 1762, he was Bute.

Still he hurried on preoficious with Spain.

Butea is a genus of lexuminous Still he hurried on preoficious with sloads. forced to declare war with Spain.
Still he hurried on negotiations with the enemy for peace, and the desertion of his ally, Frederick the Great, was simply unforgivable, nor was if forgiven hy Frederick. He was in forgiven hy Frederick. He was native of mountainous districts of made a K.G. and in 1763 peace was Hindustan, and is noted for its great made a K.G., and in 1765 peace was initiated, and is noted for lig great made at Paris. Bribery and corrup- beauty. It yields lac, and a bright red tion had by this time ohtained for astringent juice, known commercially him a majority in the House of a East Indian Kino, while the flowers Commons, hut he still aroused the yield a bright yellow dye. B. superbabiliterest hostility by his policy, and grows on the mts. of Coromandel. Butera, a tn. of Sicily, in prov. of the Whig oligarchy. Everywhere he Caltanissetta. Pop. 5900. was attacked, and the attacks did not spare him in any way: it is in fact safe politics, and was again on two occa- authoritics.

sions a representative peer of Scot- Buller, Benjamin Franklin (1818- land, but he spent the greater part of (193), lawyer, general, and governor of the rest of his life in travelling, and died in 1792, being buried at Rothesay in the 1s. of Bute. He was totally unfitted for the position which he had occupied, but in his desire to serve the king there was no more loyal '0, and became subject. But his administration was noted as a criminal lawyer and a

resigned, B. was given a place as Bule Island, in the Firth of Clyde, Secretary of State, and in 1761 he also separated from Argyllshire by Kyles of became Prime Minister. The king and Bute, a narrow channel less than 1 m. he desired peace with France, Pitt in wide. The is. is 5 m. distant from the 1761 had declared in favour of war Ayrshire coast, and 6 m. from Arran. with Spain, and on the refusal of the It is 16 m. long and 3 to 5 m. broad. king to declare war had resigned. The The coast is rocky, and in the interior desire for peace, the resignation of are sev. small lochs, the prin. of which Pitt, and his own nationality, all come are Lochs Fad, Ascog, and Quien. The bined to make B. unpopular. He was soil is light and gravelly, but produces attacked in the street, and his coach excellent crops. There is no lack of destroyed, a jack boot and a petticoat | soft, red sandstone, slate, and whin-(to represent the queen) were constone, while grey granite is also found. tinually being hurnt. He was scurril. The is, is celebrated for its salubrious

Butler, Alban (1710-73), the hagiospare him in any way: It is in fact safe to ignore the majority of the charges of malpractices which have been brought against him from so many sources. In April, 1763, so hitter had the attacks become, and so much were they felt by B., that he resigned. He still attempted to retain lis in: fluence over the king, hut was forced by Grenville to retire, and finally Grenville extracted a promise from the king that the influence of B. at him the labour of thirty years, and court should cease, and after 1765 he had no longer any power over the grapher, was born in Northants, and had no longer any power over the On account of B.'s strong coclesi-king, resigning his positions and astleal hias and defect of scholarship having his influence taken from him. and critical sagacity, his works are He still took some slight interest in not capable of being received as

> 1 at Deerfield, `\)v. 5. On the e removed to Gradnated m 1838; ad-

served in the legislature in 1853, and in the state senate in 1859. In the war between N. and S. he was appointed major-general of the volunteers, and also commander of Virginia. In 1862 he led an expedition against New Orleans, took possession, erushed all opposition from the Confederate cause, and maintained order and peace. Later he received a command in Virginia, but his operations were frustrated by the arrival of General Beauregard from Charleston. He led an expedition against Fort Fisher, Wilmlington, when a futile attempt was made to breach the walls by exploding a powder boat. B. soon after returned to civil life, and was elected for Congress in 1866. In 1878-79 he was nominated for governor of Massachusetts, but was defeated. He was, however, elected in 1882. He was nominated for president in 1884, but this was not taken seriously. He died at Washington.

Butler, Charles (d. 1647), miscellaneous writer, was a native of Buckinghamshire, and was educated at Oxford. He spent most of his life at Basingstoke, first as a schoolmaster, and afterwards, for nearly fifty years, as Vicar of Laurence Wotton, 3 m. from the town. He wrote a work on bees, 1609; a treatise on affinity as a bar to marriage, 1625; a Latin treatise on rhetoric, 1629; a work on English orthography, 1633; and The Principles of

Breducated at Douay, and

the books which he published, and which attained the proportions of 50 vols., may be mentioned, Book of the Roman Catholic Church, 1825; Re-miniscences, 1821-27; Coke upon Lilleton's Lewis

Lillleton's Laws Butler, Lady

lived in seelus Ponsonby (1755-1831) at Plasne-wydd in the Vale of Llangollen for over fifty years. They were known as 'The Maids of Llangollen,' or 'The Ladles of the Vale,' and were visited by many distinguished people. Lady Eleanor belonged to the Irish house of Ormonde, and her brother suceeeded to the earldom in 1791.

Butler, Elizabeth Southerden, Lady

champion of the working classes. He | died in 1910. In early life she spent some years in the study of art at Rome and Florence. She exhibited 'Missing' at the Royal Academy in 1873, and this was followed by a suecession of successful pictures, dealing chiefly with military subjects. Among them were: 'The Roll Call,' 1874; 1874 : vaein were: The Roll Call, 1874; 28th Regiment at Quatre Bras, 1875; Balaklava, 1876; Inkermann, 1877; Scotland for Ever, 1881; Floreat Etona, 1882; Tel-el-Kebur, 1885; Evieted, 1890; A Cistergian Shephond, 1906 Cistercian Shepherd,' 1908. She pub. Letters from the Holy Land in 1903.

Butler, George, D.D. (1774-1853) headmaster of Harrow and dean of Peterborough, was born at Pimlico, London, in 1774. Educated at Cheyne Walk School, Chelsea, and Sidney Sussex College, Cambridge. Elected a fellow of the college and acted for some time as mathematical tutor. In 1805 he became master of Harrow School, retaining this position until 1829. He then retired to his living at Seyton, Northamptonshire, and was appointed dean of Peterborough in 1842. Ho was a great mathematician, a distinguished classical scholar, and spoke several languages fluently. His later years were years of physical suffering. He died at Peterborough. Cliles works aro: Extracts from the Communion Service of the Church, and Statutes of Peterborough Cathedral. Butler, Henry Montagu (b. 1833),

English elergyman and schoolmaster, was born at Gayton, Northampton-shire. He studied at Trinlty College, Cambridge, and from 1859-85 was x School.

of Gloucester.

Lincoln's Inn, being calle
Lincoln's Inn, being calle
in 1791, under the te
Catholic Relief Bill. He took silk in master of Trinity College, Cambridge,
Catholic Relief Bill. He took silk in master of Trinity College, Cambridge,
Catholic Writer Amongst 1890. Among his works are: Sermons 1890. Among his works are: Sermons preached in the Chapel of Harrow School, 1861 and 1860 (New Series) Belief in Christ, etc., (1898); University and other Sermons, 1899. Butler, James, see ORMONDE, DUKE

> Butler, Joseph (1692-1752), was born at Wantage on May 18, being the son of a linen-draper of that town. His father was a Presbyterian, and Joseph was educated with the ultimate object of his finally entering the Presbyterian ministry. He received his education at Gloucester and Tewkesbury. Whilst at the latter Tewkesbury. Whilst at the latter academy B. being dissatisfied with the principles of Presbyterianism, joined the Church of England. He entered Oriel College, Oxford, 1715. He took his degree in 1718, and was

Switzerland. In 1877 she married the chapel of the Rolls, and was Lt.-Gen. Sir William Francis B. He rapidly advanced in the Church, being

1726, but it was while he was there that he preached his famous fifteen sermons. Between the years 1726 and 1736 he lived in great seclusion, and the same year he was artached to the best of the queen. In 1737 Queen themselves in the most contemptible Caroline died, and B. was appointed light, form a splendid embroidery. hishop of Bristol; in 1740, however, See Works, ed. hy R. B. Johnson, he was made dean of St. Paul's, in 1893; Hudibras, ed. hy A. R. 1746 clerk to the closet of the king. Waller, 1905.

In 1747 there seems to be some evi—Butler, Samuel, M.A., D.D. (1774-

In 1752 he died. He was huried at scholarship with Samuel Taylor Bristol, where so much of his life had coleridge and Keate, afterwardsheadheen spent. In 1736 had appeared his master of Eton, as rival competitors, great work, The Analogy of Religion. See Works, ed. J. H. Bernard, 1900.

Butler, Mrs. Josephine Elizabeth (1828-1906), anthor and social reformer, was the daughter of John optime in the mathematical tripos. Three years later he was senior. Three years later he was senior. Three years later he was senior optime in the mathematical tripos, and the mathematical tripos, the more optime in the mathematical tripos, and spent son optime in the mathematical tripos, the movement for the suppersion of the first of Kenilworth, 1802; a preligious and educational subjects, and spent son of the first of Kenilworth, 1802; a preligious and educational subjects, and spent son of the first of Kenilworth, 1802; a preligious and educational subjects, and spent sone of his early bridge, and spent some of his early some of his early

of which he hecame president in 1902. He was the founder and first president of the College for the Training of Teachers at New York. He founded the Educational Review, and has published various works on educa-

tional matters.

Butler, Samuel (1612-80), author of Butter, Samuel (1012-20), author of Huddhras, was a farmer's son. After heing for some years page in the household of Elizabeth, Countess of Kent, he became elerk to several Puritan justices of the peace. Sir Samuel Luke, one of these justices, is

given the living of Stanhope by Talhot, him as 'strong-set, high-coloured, a Bishop of Durham, with whom he head of sorrel hair, a severe and had heen on terms of great friend-sound indgment: a good fellow, lends ship at Oxford. He resigned the no support to the stories of his neglect preachership of the Rolls Chapel in at court and miserable end. His Hudibras (puh. in three parts, 1663, 1664, and 1668), is a satire on the Puritans. Charles II. is said to have enjoyed the pungency of its wit, and for some seven years of that period the resistless power of its railleries. lived in practical retirement at Stan. Like Pope, B. is now more quoted hope. In 1733 he was made chaplain than read. The story is hut a hare to the lord chancellor, and in 1736 framework, yet his mastery over prehendary of Rochester, whilst in rhyme and epigram, and his genius the same year he was attached to the for making his characters depict

dence for the statement that he was 1839), classical scholar, was educated offered the primacy, which he de- at Rugby and St. John's College, elined, but the evidence for this is not Cambridge. At college his brilliancy altogether reliable. In 1750 he ac- gained him many medals and prizes cepted the bishopric of Durham, and In 1793 he secured the Craven in 1752 he died. He was buried at scholarship with Samuel Taylor Bristol, where so much of his life had Coleridge and Keate, afterwardshead-

ners are the reverse of onrs. It is ruu of humour and irony, and the sequel to it, Ercuhon Revisited, 1901, retains these virtnes to the full. Among his other works are: The Fair Haren, 1875; Life and Habil, 1877; Evolution, Old and New, 1879, where he strenuously comhats Darwinism: Exercise 1856. Life of Picken Buller, 1876. strenuously comnats Darwinism: Lx Polo, 1865; Life of Bishop Buller, his grandfather. 1896; and The Way of All Flesh, 1902, a novel published posthumously; The Note Books of Samuel B. edited by H. F. Jones, was published (Fifield, London), 1912.

Butler (or Buttler), Walter (1600-34), Trish advanturer, was descended from

Samuel Luke, one of these justices, is Irishadventurer, was descended from supposed to be the original of Hudi-the third Earl of Ormonde. He was bras. In 1662 he was steward of presentatibe battle of Prague (1620), Ludlow Castle. Aubrey, who describes and accompanied James B., a kins-

Oder (1631), at the siege of which he greatly distinguished himself. He then served under Wallenstein, and he was an accomplice in the murder of Wallenstein at Eger in 1634. For his share in this affair he was en-

nobled by the emperor.

Butler, William Archer (c. 1814-48), professor of moral philosophy in the university of Dublin, was born at Annerville near Clonmel. He was Annerville near Clonmel. He was brought up as a Roman Catholic, but became a Protestant. Educated at Clonmel School and Trinity College, Dublin, he joined the Collego Historical Society, and was appointed first professor of moral philosophy at Duhlin University. He held livings successively at Clondehorka and Raymoghy in the diocese of Raphoe. During the horrors of famine and pestilence in 1846-7 he laid aside all higher pursuits and tolled nobly among the poor as relieving officer. He paid a visit to the Lake District in 1844. where he made the acquaintance of Wordsworth, Sir W. R. Hamilton, and Archdeacon Hare. His chief works are: Letters on Romanism, Sermons Doctrinal and Practical, Lectures on the History of Ancient Philosophy.

Butler, Sir William Francis (1838-Butler, Sir William Francis (1838-1910), born at Suirville, Tipperary. Educated at Dublin, he entered military service in 1858, and be-came eaptain in 1872, and lieu-tenant-colonel in 1880; served in the Ashantl expedition in 1873, in Natal, 1879, and in the Soudan eampaign of 1884-5, being employed as colonel on tho staff in 1885, and brigadler-general 1885-6; made a K.C.B. in 1886, colonel of the staff in Egypt, 1890-2. He was brigadier-general there until 1892. when he was promoted to the rank of major-general and stationed at Alder-He succeeded General Goodenough as commander-in-chief in S Africa in 1898, with the local rank of lieutenant-general. He aeted as high commissioner during Sir A. Milner's absence in England. Before the out-break of war B. was recalled became the expressed views on the subject of probabilities. probabilities of war which were not approved of by the home gov. Ho returned home and held the post of commander of the western dist. until 1905. Promoted to lieutenant-general ln 1900. He married in 1877 Miss Elizaheth Thompson, a painter of battle seenes, chief of which are: 'The Roll-Call,' 'Quatre Bras,' and 'The Dawn of Waterloo.' He puh, the Great Lone Land and other works, and was the blographer of Sir George Colley. His Autobiography was published in 1911.

man, on his march to Frankfort-on- | necessaries for the royal household at a valuation, oven without consent of the owner. From this probably originates the custom of taking dues in return for protection of ports and harbours. B. ceased to be levied in 1809.

Buto, an Egyptian goddess, whose earlier name of Uto heeame confused with the name of the city of B., in the N.W. of the Nile delta, where she was held in special honour. She was a cobra-goddess of the marshes,' and identified by the Greeks with Leto.

Butomaceæ is a very small order of monocotyledonous plants found in marsbes of tropical and temperate lands. The flowers are regular, hermaphrodite, with two whorls of three in the perianth, nine to numerous stamens, six to numerous carpels, with numerous ovules. The inflorescence is usually an umbel and the fruit is a folliele.

Butomus, Butomus umbellatus, the flowering rush, is the single species of Its genus in the order Bntomaceæ. It grows in Europo and Asla, and is accounted the handsomestherbaceous plant of the British flora. The flowers are rose coloured and the leaves are

sword-shaped.

Bütow, in the prov. of Pomerania, Prussia, 77 m. E. of Colberg. Pop. 5020.

Butrinto, a small fort. tn., opposite Corfu, in the sandyak of Delvino, on the coast of Albania, European Turkey. Lako Vivari lies to its N. It has a little harbour, and is the seat of a Greek hishop. The Vonetians held the town till 1797, when it was occupied by the French, who in their turn gave it up to tho Turks in 1799. The ruins of Buthrotum, a Roman colony mentioned by Straho, lio near at hand. They include a mile of old Roman wall. Pop. about 1750.

Butt, Clara (b. 1873), a contralto born at Southwick, singer, was Sussex. In 1900 she married Kennerley Rumford, baritone vocalist, with whom she has appeared on many concert platforms throughout She made her début the country. in Dec. 1892. One of the most conspicuous of her many successes was in Elgar's Sea Pictures (1899).

specially written for her. Butt, Isaac (1813-79), leader of tho Home Rule party in Ireland, was born educated at Trinity in Donegal; College, and took his degree with high distinction in 1835. In 1836 he was appointed professor of political economy and was called to the bar in 1838. He was a Conservative in politics, and in 1852-65 was M.P. for Youghal. He changed his political oplitions, and on his election for Limerick in 1871 he became leador of Butlerage was an anct. right of the Limerick in 1871 he became leador of crown to huy np provisions and other the Homo Rule party. A Home Rule



NYMPHALID BUTTERFLY a, egg-chain (magnified); b, caterpillar; c, pupa; d, imago (upper side of wing, right; under side, left). Size reduced.

seven suh-families, and these include such well-known Bs. as the Grayling, Scotch Argus, dead-leaf, fritillaries, nide has two sub-families, and in Britain is represented by the Duke of Burgundy fritillary. The Blues are Burgundy fritillary. The Blues are is the single species of its genus small and slender Bs. comprised in in the order Guttifere, found in W. stones, orange-tips, clouded yellows. Butterwort is the name applied to and garden whites or cabbage inter-sev, species of Pinguicula, a genus of dies. The difference in form and Lentibulariaces. Three of these

dihles are rudimentary or absent, and the probose is formed by the maxilian, members in S. America, and some of these are the most based in some than the some that the some than the some than the some than the some that the so and in some species is ten inches long; these are the most beautiful butter. The legs are always weak, merely flies in existence. The Hesperidæ, or supplying supports during rest, and in some cases the front pair is rudi-having perfect legs; like the Papiliomentary. The metamorphosis of the inide it is world-wide in distribution. insect is complete, but the life of the hut unlike that family, its species dult is usually row short end solden here leaving here leaving here leaving here. insect is complete, but the life of the nut unuse that the large is adult is usually very short, and seldom have largish hodies of very dull colour, survives a single season. In classification many have a jerky flight, but some than the Rhonalocera are divided into are extremely rapid when on the wing. sturvives a single season. In classinear survives a single season. In classinear tion the Rhopalocera are divided into are extremely rapid when on the wing. six families. The Nymphalidæ is the largest of these, and none of the species included in it are capable of walking on the front less owing to Genera of Diurnal Lepidoptera, 1846-their reduced state. To it helons 52; F. O. Morris's History of British Butterflies, 1853; H. Walverlist on the Amuzon, 1863; S. H. Scudder's Butterflies, 1881.

Butterfly Orchis, or Hobenaria bifolia, and H. chlorantha, are heantiful species of Orcludacea: they are found in Britain. The purple B. O. and white B. O. are H. papilionacea

and H. nirea respectively.

Butterfly Weed, or Pleurisy Root, is the Asclepias tuberosa, an herbaceous plant of the order Asclepiadacee. It is a native of the United States, and is used in cases of pulmonary affections and rheumatism.

Butterine, a food product prepared hy mixing purified animal fats with genuine butter. By the Margarine Act of 1887 all such substances are to be termed Margarine (q.v.), and must be so labelled.

Buttermere, in Cumberland, origin-Buttermere, in Cumberiana, originally with Crummock Water formed one lake. The lake is 1½ m. in length by ½ m. in breadth, and drains N.W. It is 7½ m. S.W. of Keswick, and is surrounded by superh scenery.

Butternut is the name given to the

fruit of the various species of Cargo. It is a large drupe containing four seeds, and comes from tropical America. The term is also applied to the Juglans cinerea, the white walnut of N. America, the seeds of which are rìch in oil.

Butters (Vegetable), substances having the consistency of hutter, being vegetable fatty oils which are admirals, purple emperor, and the nearly solid at ordinary temperatures, genus Vanessa. The family Eryci-Examples are: cocoa hutter, butter

the Lycenide, the species of which Africa. It yields a fatty substance, are usually blue on the upper surface, which is used as tallow and as a sub-hut many are also copper, white, and stitute for butter. Bassia butyracea, yellow. The Pierida is a family which a species of Sapotaeca, is the Indian B. stitute for butter. Bassia buturacca, aspecies of Sapotaece, is the Indian B., has several British genera, and among from the seeds of which a fatty juice the hest known members are brim- is obtained and used in soap-making.

Three of colour of the sexes in Papilionida has plants grow in damp places in Britain. led to a good deal of confusion among and are noted for their carnivorous greenish-yellow leaves which grow close to the ground and are covered with numerous small hairs secreting a as Fr. bouler, to push), small picces sticky fluid. Insects adhere to the of bone or other material which, leaves, and the acid secreted by the hairs decomposes the bodies and gives the plants the nitrogen they require. P. vulgaris, P. alpina, and P. lusilanica are the species which are found in Britain.

Buttevant, a market tn. in Ireland, eo. Cork, 61 m. N.W. Mallow, on the G.S. and W. Railway. It is a garrison town, and has the remains of an

gether without overlapping.
Buttmann, Philip Karl (1764-1829), a Ger. philologist, born at Frankfort on-the-Main. At the University of Gottingen he studied under Heyne. In 1789 he was appointed assistant at the Royal Library at Berlin. From 1796-1808 he was professor at the Joachimsthal Gymnasium in Berlin. Admitted in 1806 to the academy of seiences, he became, five years later, secretary of the historico-philological department. For some years he had department For some years he had 1827 by Samuel Williston. B. are edited Spencr's Journal, but his same made of various materials. B. of rests on the encouragement he gave to the study of the Greek language by his Grieschische Grammalik, 1792, and his Lexilogus, 1818-25, which is a scholarly discussion of certain diffithe latter having already passed the 2 pearc

Buttueriaceæ is a term which was formerly used for a group of dieetyledonous plants now included in the order Sterculiaccæ. Buttneria and Theobrama were two chicf genera.

Button, Sir Thomas (d. 1634), entered the navy in 1589, but did not rise into renown until in 1612 he was lition h for whos tho 🏃 d hy mself the capti lored the e st, of Huds and proved conclusively that the noped-for passage did not exist. It was he who named the Nelson R., New Wales and Button's Bay. Deficiency in equipment caused a high mortality among the crew. Later B. was admiral of the king's ships off Ircland, and did yeoman's service in suppressing Various disputes with the

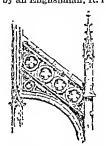
habits. The rhizome has a rosette of by the Duke of Buckingham, emhittered his closing years.

Buttons (Fr. bouton, from same root pushed through a loophole, serve to connect different parts of a garment. The history of B. making dates hack to Elizabeth's reign. At first B. were only made for purposes of ornamentation. Bright, gandy, and costly B. with numerous facets were worn in the last century, and similar B. have recently been made in Paris. Birmingtown, and has the later above. Pop. 2025.

Butt-joint, a joint (often in iron-18th eentury and the early part of work) in which the edges or ends of the 19th century is known as the Augustan period of B. making in Augustan period of B. making in when it was the fashion ham is the centre of the industry in Birmingham,' when it was the fashion to wear coats covered with gilt B. At that and the subsequent period the profits of manufacturers amounted annually to very large sums. At the heginning of the present century Mr.

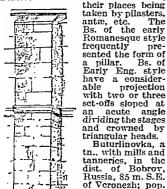
his son canvas

vegetable ivory are largely used now. A palm tree called the 'corozo nut' rields this substance, which is softer than true ivory and easily turned and dyed. Brass B. were first made cult words in Homer and Hesiod, at Birmingham in 1689. Ivory B. are Both these works have been translation of made at Birmingham in 1777. Towards the middle of the 19th century Emile Bassot invented a widely-used process for making them from hoofs of cattle, softened by boiling. Pearl B. are made from pearl oyster shells. Glass B. are especially made in Bohemia, and porcelain B. were made in 1840 by an Englishman, R. Prosser.



FLYING BUTTRESS

Buttress (Fr. bouter, to push, from Admiralty, in which he was supported Old Fr. bouteret), a projection from a wall provided to give additional usually added to bring off the acid in strength to the same. In classical the form of the calcium salt. architecture there were no visible Bs..



23,000. Butyl Alcohol, one of the isomeric alcohols οf the

general formula NORMAN BUTTRESS C.H.OH. There

are two primary, and one tertlary one secondsry, and one tertlary forms. Normal B. A., CH₂.(CH₂)₂.OH, and is a colourless liquid prepared by reducing normal butyl with sodium. Isobutyl aldehyde alcohol. (CH2), CH.CH2OH, ls a disagreeably - smelling liquid occurring in fusel oil. The secondary alcohol, methyl ethyl carbinol, CH2.C2H4. CHO boilir

hol, is a the a ehloride.

Butyl Chloral, C₄H₁.Cl₂O, an oily liquid prepared by the action of chlorine on acetaldehydc. It readily chlorine on acetaldehydc. mites with water to form B. C. hydrate, C.H., Cl.O.H.O. a crystalline solid used in medicine as an ancesthetic. It has similar properties to chioral hydrate, in the manufacture of which it occurs as a by-product.

Butyric Acid, CH2.CH2.CH2.COOH, a volatile fatty acid occurring in butter fat, in parsnip and other vegetable oils, and in the perspiration of animals. It is an oily colourless liquid with an unpleasant smell, solidifies at -19° C., boils at 162'3°, and has a at -19° C., boils at 162'3°, and has a specific gravity of '974. It is miscible with water and alcohol, and forms

Isobutyric Acid, (CH3)2.CH.COOH, an isomerie form found in some vegetable oils. It has an unpleasant smell, boils at 155° C., and has a specific gravity of '969.

Butyric Ether, or Ethyl Butyrate, a liquid obtained by distilling butyric acid, alcohol, and sulphuric acid. Unlike butyric acid, it has a pleasant smell resembling that of pine-apple. It is commercially known as pineapple oil, and is much used as a flavouring agent for sweets, etc.

Butyrine, C3H6(C4H7O2)3, a yellowish liquid with a bitter taste which forms about 3.8 per cent. of butter fat. It is the glyceride of butyrie acid.

Bützow, in Mecklenburg-Schwerin. Germany, 18 m. S.W. of Rostock, with which it is connected by rail; pop. 5260.

Buxa, or Baxa, name of a tn. and pargana (or dist.) In Jalpaiguri division of Eastern Bengal and Assam,

on borders of Bhutan. Buxar, sec Baxar.

Buxbaumia, aphylla, is a moss of the order Bryineæ and family Bux-baumiaceæ. It was named in honour of Buxbaum, the Ger, botanist, and is a rare plant occasionally found in Britain.

Buxina, an alkaloid occurring in the common box tree (Buxus sempervirens).

Buxton, a watering-place and mrkt. tn. in Derbyshire, 36 m. N.W. of Derby, and 163 N.W. of London by rail, and is on the L.N.W. and Midland Railways. Area 1310 ac., and pop. 10,190. It is the highest tn. in England, 1000 ft. above sea-level, is the eentre of the Peak dist., and is remarkable for its very bracing climate. It has long been famous for its mineral waters, which were known to the Romans. The springs supply hot and cold water, though only a short distance apart; the hot springs have an even temperature of 82° F. The baths are the property of the Duko of Devonshire. At the Devonshire the property of the Duko of Devonshire are contracted. of Devonshire. At the Devonshire Hospital over 3000 poor gouty and rheumatic patients are treated annually. There are excellent liotels, hydropathics, and the varous establishments that are to be found in a favourlte watering place. In the vici-nity is Diamond Hill, so named from its abundance of quartz crystals; also Poolo's Hole, a remarkable stalactite

Buxton, Jedediah (1707-72), a calwith water and alcohol, and forms curator, count in number, alsalts called butyrates. It may be pre-elaborate problems in number, although he never mastered any arithmetical rules. By striding over the estate of Elmton, he gave its area agency the acid is formed. Chalk is accurately in acres. roods, etc., and

Buxton, Sydney Charles (b. 1853), Liberal politician and author, was the son of Charles Buxton, M.P., and Emily, daughter of Sir Henry Holland, Bart. He was educated at Clifton and Trinity College, Cambridge. He was a member of the Lorder School Read for 1876 to London School Board from 1876 to 1882, and honorary secretary of Mr. Tuke's fund from 1882 till 1884. His first attempt to enter parliament was in 1880, when he contested Boston nnsuccessfully. He became M.P. for Peterborough three years later, but failed to seeme re-election in 1885. He contested Croydon unsuccessfully in 1886, but later in that year became M.P. for the Tower Hamlets (Poplar division), and continued to hold the seat through successive elections. He served on the Concillation Board at the dock strike of 1889, was a member of the Royal Commission on Education, 1886-89, and a member of the Income-tax Committee in 1904. From 1892 till 1895 he was Under-Secretary for the Colonies. From 1905 to 1910 he was postmoster general, and in that capacity instituted the penny post to the United States. 1908; and the Canadian magazine post, 1907; and acquired the first wireless telegraph station for the post office, 1909. In 1910 he became President of the Bearle Capacity of the states of the Board of Trade, and he took a prominent part in several of the important. financial measures dealt with by Mr. Asonith's government. He was the author of the 'Fair Wages' resolution of the House of Commons: resolution requiring a clause to be inserted in all government contracts to secure better payment for workers engaged in such work. Responsible for the Copyright Act, 1911, and Unemployment Section (Part II.) of the National Insurance Act, 1912. He has published: Finance and Politics. 1883-85; Political Manual, 1886; Handbook to the Death Duties, 1893; Mr. Gladstone as Chancellor of the Exchequer, 1901: The Fiscal Ques-tion; Handbook of Political Questions, 1991. He has also written on his two fovourite recreations, Fishing Shooting, 1902.

Buxton, Sir Thomas Fowell (1789-1845), philanthropist, was a brilliant student at Trinity College, Dublin, in spite of his very meagre groundings in academic work. In 1808 he entered Truman Messrs. hrewery.

oven square inches. At a performance | devotion to business that he became of Richard III., his one amusement partner in 1811. His wife, Harriet was to count the words Garriek Gurney, was a sister of the famous nttered. Another time he expressed Mrs. Fry. People first recognised his talent ns a speaker, and his disinterested enthusiasm in his speech for the Spitalfield weavers, 1816. From 1818 to 1837 he represented mouth in Parliament, his sturdy opposition to bribery being responsible for the loss of his seat. Though he for the loss of his seat. sacrificed many hours to the question of prison reform, and tried to carry through a scheme for bettering the condition of the African negroes, his life work was to promote emaneipa-tion of slaves throughout British dominions. In this cause his activities were never relaxed, and be proved himself a worthy successor to Wilberforce as leader of the anti-slavery party, 1824.

Buxtorf, Johann (1564-1629), Ger. Hcb. scholar, became professor of Heb. at Basel in 1591. In his devotion to rabbinical literature he has hardly been surpassed. His reputation depends chiefly on his Lexicon Chaldaicum, Talmudicum, et Rabbini-cum and his Concordantia Bibliorum Hebraicorum, both of which were pub. by his son, but his greatest work, perhaps, was his folio Hebrew Bible, to which were added the Aramaic Paraphreses or Targums, and the Commentaries of Ben Ezra, Rashi, and other Rabbins, 1618. A fatai attack of the plague cut him off in the

midst of his studies.

Buxtorf, Johann (1599-1664), son of the former, also occupied the chair for Heb. at Basel. Much of his public life was absorbed in an embittered and learned argument with a Frenchman, Capellus. B. maintained that the Massoretic text alone was the ' Hebrew Verity,' and that the vowel points and accents, as well as the letters, were possessed of divine authority, and were at least as old as the days of Ezra. Capellus proved fairly conclusively that the vowels, otc., go back only to the 5th century A.D.

Buxus, a genus of dicotyledonous plants of the order Buxacee, of which the common name is box (q.v.).

Buys-Ballot, Christoph (1817-90), meteorologist, born at Kloetigen in Zeeland; studied at Utreeht, where he became professor of mathematics. 1847, and of experimental physics, 1870, and in 1854 director of the Royal Meteorological Institute. He invented the aeraklinoscope and a system of weather signals which were a great aid to international uniformity in meteorological observations. observations have been formulated in a general law of storms which may be ruman and Hanbury's put thus for the northern hemisphere, So whole-hearted was his Stand with your back to the wind the low pressure area will be on your of Vesterbotten, on W. shore of Gulf left hand. For the southern hemissiof Bothnia. Sphere the reverse will obtaio. This law, His land, England, situated in the born works locited: Changements périod of Newcastle, and about a mile to iques de la Température, Utrecht, the E of that the Pop. 32.500. 1847; and in English, Suggestions on By-law, or By-law, is a private a Uniform Sustem of Utterplantal regulation concession and by the properties.

Observations, 1872-73. situated on the Bosphorus, about 10 m. from Constantinople. It is a favour-ite summer resort of many of the

ambassidors of the Christian powers

grain, timber, and petroleum; pop. 21,600.

foundries, etc., in Russia, 110 m. S.E. of Samara, near junction of R. Samara and R. Buzulnk; pop. 19,700.

genera of birds-of-prey of the falcon! family, Falconide, to which belong The species usually hall animals as mice. also the kites. B., belongs to a different sub-family from Buteo, while Cathodes turkey B., is an American vulture. Buzzard's Bay is a large inlet of the

Atlantic Ocean on the S.E. coast of Massachu-etts, United States, New Bedford, the cap. of Bristol eo., stands on the estnary at the mouth of

Engineer-, and served in the Penin-sular War. He constructed the Rideau Canal, 1827-32, in Canada, joining the Great Lakes with the St. Lawrence. The cost of over a million came, they were first handed down orally. parliament.

Byblos, or Byblus, an ancient eity of Phenicia, on the Mediterranean, between Berytus and Tripolis, near the foot of Lebanon. Said to be the bp. of Adonis or Thammuz, and the headquarters of his worship. Modern Jebail.

Bygdea, a tn. of Sweden in the prov.

a Uniform System of Meteorological regulation generally made by councils, corporations, and companies for the Buyukdereh, a village beautifully eontrol of order and fair government within some juri-diction. binding, unless contrary to the laws of the land, or to the act of any eorporation; or unless they are obviously unreasonable. The power of Bs. exambassadors of the Christian powers poration; or unless they are obviously Buzançais, a tn. in the dept. of unreasonable. The power of Bs. exfindre, France, on the R. Indre, 13 m. tends to taxing, licensing, and the N.W. of Châteauroux. There are regulation of amusements. Fines and iron-works in its vicinity. Pop. 4986, forfeitnres may also be enforced by Buzeu, cap. of prov. of B. in Rou-Bs. Corporate bodies also are emmania, 42 m. N.E. of Ployeshit: the powered by their charters to make seat of a bishop, and a market for Bs. which are binding on their Every corporation can members. Buzuluk, tn. with tanneries, copper by itself. By various statutes powers undries, etc., in Russia, 110 m. S.E. are given to be accounted to the composition of the c district councils to make Bs. for the government of the said districts. Such Buzzard is the name given to several Bs. are not enforced until after the expiration of forty days, or till a copy has been sent to a secretary of state, who has power to disallow or alter the Bs. Bs. must generally be sublive on such small animals as mice, the Bs. Bs. must generally be sub-but they are known to carry off mitted to some confirming authority but they are known to carry on more sanction and approval. For exdomestic fowls. They are cosmo- for sanction and approval. For expolitan but for Anstralia. B. vulgaris, ample, the Board of Trade regulater traffic on railways and tramways, the the common B., and Archibuteo traffic on railways and tramways, the lagopus, the rough-legged B., are the Education Department makes Bs. only natives of Britain. B. lineatus, compelling attendance at school, the the red-shouldered hawk, and B. Local Government Board regulate, borealis, red-tailed hawk, occur in N. by means of Bs., the use of public baths and washhouses, lodging houses, and slangliter-hon-es. Bs. may also from Buteo, while Catharles aura, the be made by societies, guilds, and companies.

Bylina (' The Past '), name given to epic songs of Russian popular poetry. Their hero's ('bogatyri,' or paladins) are mythical or historical stands on the estuary at the mouth of 'persons, or types of the forces of Aeuslinet R., which falls, with other nature. The mythical or 'elder palasmall streams, into this bay. Between dims,' have but a small part assigned B. B. and Plymouth is the largest to them, the bulk dealing with the stretch of untained soil in the state. " younger puladins "thi-torical figures By John (1781-1836), enzineer and such as St. Vholinir Boris Godinnov, founder of Bytown, now Ottawa. He Ivan the Terrible). These hallads was a lieutenant-colonel in the Royal have been collected from bards to Engineers, and served in the Penin-Northern Russia and Siberia, especially in the governments of Olonetz, Arkhangelsk, and Tomsk. Like all poems duting from very early times in for much criticism in the British : Richard James, chaplain of English embassy in Russia (c. 1619), collected some of them, but interest was keenly aroused only in the 19th century. The poems are divided into several eveles; eyele of Kiev (chief figures Vladimir, Hya Muromets); eycles of Novgorod, Moscow, Peter the Great, and others. Chief collections: Ribnikov. 1860-71: Kireico-ki, 1868-74

Sobolenskii, 1895-1900; Avenarius's practice at the Hagne. In 1703 he Anthology, 1885. Consult Raiston's became a member of the Supreme Songsofthe Russian People, 1872; Russian Folk-Tales, 1873; Rambaud's Friesland, and in 1742 became its La Puesie Anthon (1876; Wollner's president Author of numerous works) Anthology, 1885. Consult Raiston's became a member Songsofthe Russian People, 1872; Russian Folk-Tales, 1873; Rambaud's Frieshind, and in 1 La Russie épique, 1876; Wollner's president. Author of Untersuchungen über die Volksepik der Grossrussen, 1879; Wesselofsky, By-products, good Beiträge zur Erklärung des russischen Heldenepos (Archiv für slavische) Philologie, vol. iii., 1879); Epic Songs

of Russia, trans. by Hapgood, 1886. Byng, George, Viscount Torrington (1663-1733), British admiral, boru at Wrotham, Kent; went to sea at fifteen; was made captain by the Prince of Orange in 1683, and in 1703 became rear-admiral of the Red. In 1704 he served under Sir Clondesley Shovel, and distinguished himself at Gibraltar, and was knighted by Queen Anne for gallantry at Malaga. He was elected to parliament in 1708, and represented Plymouth till 1721. In 1708 he was made admiral of the Blue and defeated the French fleet of the Pretender; in 1715 served against the French in the Downs and was made a baronet; in 1718 dispersed the Spanish fleet off Messina, and was appointed treasurer of the navy and rear admiral of Great Britain. In 1721 he became a privy councillor, Baron Southhill, and Viscount Torrington; in 1725 a Knight of the Bath, and in 1727 First Lord of the Admiralty.

Byng, John (1704-57), the son of Lord Torrington, and a British adinfluence to further the interests of The result was that B. rehis son. ecived rapid and not altogether He entered the merited promotion. navy in 1718, becamo a captalu in 1727, a rear-admiral in 1745, a viceadmiral in 1747, and an admiral in 1755. He was never given dangerous employment, but was always chosen for the more comfortable work in the navy. In 1756 he sailed from Gibraltar to relieve a garrison that was besieged sailed he was a man with a grievance, would not attempt to relievo the garrison in the face of any difficulties. He fought an ineffective naval battle with the French, hung round Minorca for a few days, and then returned without having done anything. The fort surrendered, and B. was brought home, tried by court-martial, and executed for not having done his utmost. As a leading Frenchman of pour encourager les autres.

1743). Dutch jurist. b. at

Zealand: studied at the Francker, and took a do

In 1694, settling down to an advocate's different seasous. The case of the big

president. Author of numerous works

By-products, goods of commercial value which occur in the mannfacture or preparation for the market of some other commodity which is looked upon as the main product. B. have always been considered in the economic adjustment of agricultural and pastoral enterprises, but it is only within recent years that their great importance in various forms of manufactures has been recognised. B. not only mean additional profit in the ordinary course of a particular business, but they also represent a means of insurance, or of levelling up the various risks; for it often happens that the markets supplied by the different products are independent. so that the dangers of a movement disastrously affeeting the value of one product may be counteracted or at any rate mitigated by a profitable treatment of another. It may thus happen that what was considered the nialn product at the beginning of an enterprise may become secondary and a former by-product may become the principal article dealt with. Where B. have gained enhanced Importance in this way it is more convenient to speak of all the marketable miral. His father, who was most in- goods us joint products. At the fluential in unval matters, used his present time, when chemical science enables us to treat profitably what were formerly called waste-products. and when businesses design to keep many stages in the production of an article under one control, the treatment of B. makes the question of estimating costs and values an Important one. The matter is fairly simple when the various products occur in a fixed and invariable ratio of quantity and quality, because the total income will be the sum of the in St. Philip in Minorca. When he amounts realised by each of the joint products, and an increased outlay and he notified the ministry that he should bring profits in roughly the same proportion. It occurs much more often, however, that certain products may be developed at the expense of others, either as regards quantity or quality. A farmer, for instance, may rear sheep principally for meat or principally for wool, but also with a view to profiting by both. His methods will vary according as to which he regards as the main product. the period remarked, he was shot and it may be a matter of somewhat nice adjustment to arrive at the more Bynkershoek, Cornelius van (1673- profitable of the two courses. ald no doubt decide from and might even experidifferent breeds and in

manufacturing concern is often much more complex. Where the B. are numerous and valuable, it may be that the correct adjustment of the proportions of

various produc

ference between That is to say, the particular advantage which enables a business to operate as a profit-making concern, and to keep its place among its competitors may be the development of a B. in a particular way. times the retention or disposal of a waste product is more expensive than its conversion into something marketable, or may constitute such a nuisance that the legislature insists upon a new method of disposal. An instance of the latter is supplied in the Leblane process of alkali manufacture: the hydrochloric acid generated was formerly allowed to escape into the atmosphere with some danger to public health, and the manufacturers were consequently compelled to dissolve it in water in the acid towers. An interesting feature of that compulsory change is that the old Le-blane process can now only compete with more modern processes by virtuo the profit gained by the sale of what was formerly a noxious wasteproduct.

Some important by-products. - In the aikali process already referred to. 'alanother former waste-product, kali waste, which is composed mainly of calcium sulphide, is now treated for the recovery of the sulphur. In most chemical works an effort is made to utilise or render marketable all the products of the chemical action; the pyrites burnt in sulphuric acid manufacture is treated to recover the copper and iron. Soap works produce glycerine, which is often purified for sale by the scap-manufacturers themselves. Brewing yields an excess of yeast which is sold to bakers and others, and the spent malt is prepared as a cattle food. In the great canning industrics of the United States all the animal products. hide, hair, bones, horns, hoofs, are dealt with as near the factory as possible. Molasses and syrup are B. of the sugar industry. The oll-cake produced from the pressed seeds in linseed oil factories is usc

food. In gas-works the of all illustrations of the

B. occurs. Not only is the coke sold for fuel, but the liquid or coal tar produced during the dry distillation of coal yields a variety of useful pro-ducts. When subjected to fractional distillation, benzene derivatives are separated which comprise many different dycs, drugs used medicinally, flavouring agents, and volatile benzols

which are used as solvents, and may derive still greater importance as possible substitutes for petroleum spirit.

Byrd (or Bird), William (c. 1538-1623). English unsical composer. He was 'bred up to music' under Tallis. Appointed organist of Lincoln in In 1569 he was appointed gentleman of Queen Elizabeth's Chapel Royal and shared with Tallis the honorary post of organist of Chapel Royal. His first work was a collection of motets, written jointly with Tallis in 1575. His compositions of music for the virginals were published in Parthenia, and many of his madrigals are still in existence. Most of his works are sacred, and to him is attributed the fine composition Non nobis Domine. He also wrote three masses.

Byrgius, Justus (1552-1633), Inventor of various astronomical instruments, was born at Lichensteig, Canton St. Gall, Switzerland. He served under Wilhelm IV. of Hesse and Emperor Rudolf II. His first work was a celestial globe on which the stars were placed according to his own observations. He also invented a system of logarithms and some proportional compasses, but cannot be placed on these. reliance

Byrlaw is the name given to a sort of popular jurisprudence formerly in use in Scotland, in villages, and among husbandmen. As the B. was formed by common consent of the villagers or neighbours, so it was administered by judges chosen from among and by theniselves. These judges were called 'B. mcn,' a phrase still in uso in parts

of Scotland to denote a judge or umpire. Byrne, Julia Clara (1819-94),

author, and a daughter of Hans Busk, by whom she was educated. She bocame an excellent French and classical scholar. In 1842 sho married William Pitt B., who was the proprietor of the Morning Post. She wrote books which called attention to the Roman Catholic churches and convents, but later on she became a Catholie convert. Her Undercurrents Overlooked, published in 1860, was against the workhouse abuses, and helped to reform many evils. She wrote Realilies

Life, Gossip of the Century, etc. in London.

Byrnie, ringed shirt of mail (A.-S. byrne), reaching first to the knees, later only to the hips, with wide, short sleeves. Worn by ancient Seandinavian warriors.

Byrom, John (1691-1763), poet and stenographer, horn at Manchester. After studying at the! Merchant Taylors' School his entered Trinity

College, Cambridge. He graduated B.A., and was chosen fellow in 1714. About the same time he contributed several papers to the Speclator, among them his first poem, a pastoral, entitled Colin and Phæbe. He took his M.A. and resigned his college preferment in 1716. He went to Montpellier and there began a study of medicine. Soon after his return he married his cousin, Elizabeth Byrom, and under pressure of necessity began to teach an improved system of shorthand in Manebesterand afterwards in London. He came into possession of the family estate at Kersall, gave np teaching, and employed bis time in versing on such topics of the day as interested him. He was a friend of John Wesley. His remarkable Diary and Remains were published in 1854-7 by the

Chetham Society. Byron, George Gordon, sixth Baron (1788-1824), the son of Captain John (1788-1824), the son of Captain John B., grandson of Admiral B., and great-nephew of the fifth Lord B., who was usually designated the wicked lord. The future poet was descended from a race who had for generations past been noted for the looseness of their living and their lack of morals. Especially were these traits emphasised in the character of the father of the poet. B. was the son of the second marriage of Captain B., his mother heing Catherine Gordon. of Gight in Aberdeenshire, Gordon, of Gight in Aberdeenshire, an heiress whose fortune her hushand squandered. George Gordon B., so called after his maternal grandfather, was born in Holles Street, London, on Jan. 22, 1788. His carly life was passed in the town of Aberdeen, where he also received the first part of his education, and where ho imbibed his love for the grandeur of mt. scenery, and also his knowledge of the Scriptures, a knowledge which he tells us be re-celved at the hands of his nurse, Mag Gray, to whom he was devotedly attached. The inture poet, who was born with a malformation of his feet that rendered walking distinctly arduous, could not roam about the country as he would have wished, hut still scems to have spent a good deal of his time in the open. He was sent for several seasons to the neighbourhood of Ballater. In May 1798 his greatuncle died, and B. succeeded to the title and the estates. He and his mother immediately came S. from Aberdeen and took np their residence at Newstead. From this place B. was sent to a preparatory school at Dulwich, and later, in April 1801, he entered Harrow. There lies tayed for four years, his greatest contemporary being Sir Robert Peals, his school work showed. Robert Pcel; his school work showed

He graduated was his declamation. His friendships follow in 1714. at school, he tells us, were passions, he contributed and altogether he was a very queer kind of boy. He was known throughout the school as the riugleader of any possible mischief, and yet he was at other times serious and thoughtful beyond his years. His lameness provented him giving full veut to his passion for active games, yet he made a reputation as a swimmer, and he also played cricket. During his school days he bad his first 'grande passion,' the object of it being Mary Chaworth, a distant relative, and his senior in age. His first love, be tells us, was an abiding attachment on his part, and certainly n number of his early poems have his object of adoration as their tbeme, whilst the subject often occurs in his later poems. In Oct. 1805 he entered Trinity College, Cambridge, hut bis residence there is simply one long record of high living, but he formed friendships and attachments there which were worthy of his future greatness. During the year 1806 appeared the first of his juvenile poems. Hours of Idleness appeared in 1807, whilst poems original and trans. appeared in 1808. The adverse criticism which the Edinburgh Review gave to his Hours of Idleness caused the appearance in March 1809 of English Bards and Scotch Reviewers, which satirised the editor (Jeffreys) and the patron (Lord Holland) of the Edinburgh Review. Coming of age in 1809, burgh Review. Coming of age in 1809, he immediately decided to fulfil the project which he had long had in mind of taking a prolonged tour in the East. He had already taken possession of his Inheritance, and had also in the March of the year of his coming of age taken his seat in the House of Loris. Now together with House of Lords. Now, together with Hobhouse, his closest friend, he set out for a prolonged tour. This tour lasted for about two years. He left England in July 1809, and returned in July 1811. Childe Harold's Pilgrimage describes more or less accurately the events of the first year of his tra-vels. He visited Spain and Portugal, from thence be proceeded via Malta to tour Albania and Greece. In the next year he visited Asia Minor and later Constantinople. The second year of travel is not so well known as the first, but during it the first two cantos of tho Childe Harold were written, as were also the Hinls from Horace and the Curse of Minerva. On his return to England in July 1811, these poems

Byron

was desultory, but his strongest point whose memory he wrote the poem

the town. He could go everywhere, he was received rapturously wherever he ready great reputation. In 1813 he again met his half-sister, Mrs. Leigh. and if the stories which were enrently believed are true, then the new influence was not altogether for good; it is in any case well known that he had always a greater affection for his half-sister than for any living ereature. He was now at the height of his re-putation, he was the lion of society. and he had permanently estab. his reputation as a poet. He still continued to write, and in 1814 appeared Napoleon, and in 1814 appeared the stanzas on the abdication of Napoleon, and the sequel to *The Corsair, Laia* (Aug. 1814). Inthesame year he engaged himself to Anne Isabella Milbanke, the heiress to a peerago in her own right, and his marriage to her took, when in his marriage to her took, when it has been took and the his marriage to her took and the history and h riage to her took place in the Jan. of the following year. Husband and wife finally settled down in Piccadilly Terrace, London. From his correspondence, the early days of his marriage seem to have been spent quite happily, but there is no doubt but that his conduct was often eccentric even to the verge of madness. He wrote but little poetry.

Hebrew Melodies appeared in April 1815. Almost immediately after the birth of their child, Lady B. fled from her husband's house and demanded the protection of her father, and the couple separated. The exact reason in 1905, attempted to prove the charge separation was the talk of London for a considerable time, and B. came rapidly down from his high position. No longer was he the most popular, but the most unpopular man in He fled from social ostracism. and inmediately the articles of separation were signed he started on a European tour. He spent the early

Thyrza, which was pub. with a second | part of his tour with Shelley, and his ed. of Childe Harold in 1812. The poetry published at this time shows publication of his new poems on his obviously the influence of Wordsreturn to England, and his general worth, which had affected him through prominence, for on his return he took Shelley. The poems written at this an active part in political work in the time were, the third canto of Childe House of Lords, made him the lion of Harold, The Prisoner of Chillon, The Harold, The Prisoner of Chillon, The Dream, and Manfred. From 1816-19, B., who was accompanied by Hobwent, his fame sprang into existence house, lived near Venice. His life at apparently in a single night. He was Venice was one long deliberate atapparently in a single night. He was known both as a rising statesman and tempt to forget the past in a orry of as a famous poet. His output of profligacy, but during the whole of poetry still continued to be great; in the time his active mind was at work, the year 1813 he pub. The Gaour, and he was continually busy with his The Bride of Abydos, and wrote The poetry. The fourth canto of Childe Corsair, which was pub. at the best litaroid was worked up at this time, giuning of the next year. The poems and pub. in 1818, and in the Sept. of raised him to a still higher level in the the same year he started Don Juan ranks of poets, and increased an all The process of his composition and of the publication was slow. Cantos i. and ii. appeared in 1819, iii., Iv., and v. in 1821, and cantos vi.-xiv. in the years 1823-4. Don Juan was intended to be the great poem with a plan of B. which was to set forth the ideas, norals, and principles of his school of poesy. In 1819 also had appeared Mazeppa and an ode on Venice. In 1819 B. niet an It. countess, Teresa 1819 B. met an It. countess, Teresa Gulecioli, who for the next four years remained B.'s mistress, and was rewarded with his libelity and constancy. He was politically the friend of freedom, the champion of liberty on the Continent and on the Continent he earned both influence and yower. In 1819 B. left Venice and went to Ravenna. Here in 1820 went to Ravenna. Here in 1820 appeared Surdanapalus and The Two appeared Straumpains and The Two Foscari, whilst he was at work on Marino Faliero, Doge of Venice, which was pub. in that year, and in 1822 appeared the Vision of Judgment, following year appeared the Hearen and Earth, a Mystery, and the same year was pub. The Island, or Christian and his Comrades, a poem suggested by the muting of the Bounty. In 1823, hearing that he was elected a member of the Gk. Committee, he hastened to the help of Greece and of Greeian independence with money, advice, and finally his for the separation will probably never presence. Arriving at Missoloughi labe known. The work Aslarie, pub. Jan. 1824, he was accorded the welcome of a king, and he took an active of ince-thous intercourse with Mrs. part in the councils of the Gk. He, Leigh, whilst Byron, the Last Phase, however, does not seem to have 1909, by Mr. Robert Edgecombe, de-realised that his health was breaking fended the poet on that charge. The down, but by the beginning of April down, but by the beginning of April it was abvious to all that his days were numbered, and on the 19th of that month he died, he his 50th year. His poetry has been necurately described as the poetry of glory and passion. Ills love of liberty characterised his poems also, and certainly in the desire to see the fettered nations of Europe free he was in the forefront

of his times. Works, edited by G. E. | developed in the Eastern empire after Prothero and E. H. Caleridge, 13 vols., 1893-1905; Poetical Works. E. H. Colerldge, 1905; Lives and Memoirs by Thomas Moore, 1830.

Byron, Henry James (1834-84). English dramatist, was born at Man-He entered the Middle Temple In 1858. He was the first editor of Fun, and for many years was a popular writer of burlesques, comedies, etc. He leased several theatres, and appeared on the stage of them himself sometimes. For instance, in 1869 he appeared in his own drama entitled Not such a Fool as he looks. His best known and most popular work is Our Boys, which appeared in 1875. His other works, which were numerous, include: An American Lady, 1874; Old Sailors, 1876; A Fool and His Mancy, 1880; Cyril's Success, 1868, his best piece from a dramatic point of view: War lo the Death, 1866; and £100,000 Sterling, 1867.

Byron, John (1723-86), an English vice-admiral. As a midshipman be was shipwrecked on the W coast of Patagonia, and was a prisoner for three years, returning to England in 1745. Having distinguished himself in the wars against France, he was put in commund of an expedition of discovery to the southern reas. In the course of this voyage he explored the coasts of l'atagonia, the Falkland Is., and the Straft of Magelian, discovered several new lands, and sailed round the world. He was made a vice-admiral in 1779 in the course of the war with America. His Voyage round the World in the Years 1738-48. 1766, was trans. into French in 1769. He died at Loudon.

Byström, Johan Niklas (1783-1848). Swedish semptor, born at Philipstud. Rome, 1810. Ills 'Reclining Bac-chante' (half life-size), sent home from there, won him recognition as one of the foremost Swedish sculpturs. Io 1816, on returning home, he brought with him a portrait statue of Bernadotte as 'Mars.' He was professor of contract of the goodney. professor of sculpture at the academy. but then returned to Italy. His best works are lils female figures, ' Hebe,' Pandora.' June suckling Hercules.' "Girl entering the Bath." His huge statues of Swelish kings (Gustavus Adolphus, Charles X., XI., XII.) won great admiration. B. also, did the altar-decorations in Linköping Cathedral, and Linnens' at Upsala.

Bytown, former name of the city of Ottawa, Canada, under which it was founded in 1829. It became Ottawa on its incorporation in 1834.

the settlement of Constantine at Byzantium. It continued with full vigour until the capture of Constantinople by the Turks in 1453, and its influence on Mohammedan architecture in the East has since I cen very great. The style is of great interest as showing the Greek spirit working on Asiatic lines. At the founding of Constantinople in the 4th century, Roman art was in its decadence. Already the signs of breaking up are visible, but even in the West there are signs of the development of a new style, as in the palace of Diocletian at Spalato. At the new capital, a field was provided for the exercise of the arts, and the union of two different schools produced a new architecture. The plan remained either round or basiliean in form, but the arch re-placed the line of the architave. and the dome was adopted, this last becoming the leading constructive feature. Domes were now placed over square apartments, whereas in the old Roman style they had only been placed over circular apartments. square was brought to the circle by * pendentives * which brought the four corners of the square up to form a circular base for the dome. Smaller domes are frequently grouped round a large central dome which rises from four great piers at the corners of a square. In the church of St. Sophia at Constantinuple, this central square is 107 ft. long, and the length of the church is increased by the addition of semi-domes at each end. Round the lower part of the domo a row of windows is placed. The classical columns were also developed, no less than. seven kinds of capital being evolved: the B. Ionic, B. Corinthian, impost, melon, bowl, blrd, and basket, He went to Stockholm, studied for and wind-blown acanthus, Four of three years under Sergel, and visited these types are found in St. Sophia. A great feature of B. A. is the internal ornament. After construction, the walls wore sheeted internally with marble, the vaults being covered with coloured mosaics on a golden background. Glass, rendered opaque with oxide of tin, was generally used for this purpose. The golden period of B. A. was reached in the roign of Justinian (A.D. 527-565), when the elurches of St. Sophia, St. Sergius, and St. Bacchus, and the Holy Apostles were erected. B. A. was carried West by the mediaval merchants, and the style is found in the churches of St. Mark at Venice, St. Vitale at Ravenna, St. Front at Périgneux, etc. The Roman Catholic Cathedral at Westminster is a modern building erected in this stylo. Byzantine Empire. This empire is

Byzantino Architecture, the style often distinguished by various other

names, such as Greek Empire, Laser, and carry out bis policy. But Theo-Empire, Eastern Empire, or East dorie died, to all intents and purposes, Roman Empire, and may be said to without heirs, and the kingdom fell have sprung into existence with the founding of the city of Constantinople by the great Constantine. It is necessary, however, to emphasise and to keep in mind always the fact that the B. E. was essentially Roman, and earried on the ideas and ideals of the Roman Empire for a 1000 years after the empire in the W. had perished. The adoption of Christianity by Con-stantine and the founding of the great eity of Constantinople made the B. E. essentially Christian and Roman; it gave the new ideals of the empire a permanent abode, and for centuries, oven when the B. E. seemed at its weakest, it formed the bulwark of Christian resistance to the attacks of paganism. The division of the Roman Empire during the 4th and 5th centuries did not add to its strength, and during this period we see the two divisions brought frequently into hostile relations one with another. Both suffered from the attacks of barbarians, and often it seemed that both divisions would succumb to the onslaughts of the vigorous races which at this time were threatening

that it was unnecessary to linve two rulers of the empire, and that in future Italy would look to the emperor at Constantinople as its head. Perforee Zeno had to be content. During the period which had just passed, and in the years which immediately followed, the Western Empire bad been broken Britain was abandoned, Spain was in the bands of the Visigoths, Gaul was heing conquered by the Franks, Northern Africa was in the hands of the Vandals, Rome itself was ruled by the nuthority of a barbaric but vigorous German soldier. In the East affairs had not assumed a very much lighter lue, the Balkan penhasula was inhabited by Slavonie tribes, the Ostrogoths threatened the capital item! was essentially independ

without heirs, and the kingdom fell swiftly before the attacks of the Eastern Empire and the Lombards. The emperors at Constantinople were The emperors at Constantinople were once again able to assert their sway over Italy, and indeed to actually rule part of it. Zeno had been succeeded in 491 by Anastasius, and he was in turn followed by the founder of the Justinian dynasty in 518. Justinian I. succeeded in 527 and ruled until 565. He had to the full the ideas and ideals of the great Roman Empire. He aspired to restore some of her original boundaries, to make her great he war and peace, in art and commerce, in extent and religion. On commerce, iu extent and religion. On every side during his reign we see con-siderable progress. The kingdom of the Vandals, weakened by the ex-cesses of a barbaric race new to eivilisation, fell before the vigorous onslaught of the Roman general, Belisarius, the resistance of the Ostrogoths was overcome, and a large part of Italy restored by the feats of Belisarius and Narses, part of Spain was reconquered, and on the whole it appeared that the greatness of the Roman Empire would be restored. In the empire. The last emperor of the the realm of law Justinian was W., theusurper, Romulus Angustulus, equally famous, and his Code is in · ' to perpetuate his name. is reign the faction fights and Greens come to a waged fierer than they ly done. The great work of the rebuilding of the empire commenced by Justinian was undone by his successors, and in fairness it must

ho owned that the weakness of the empire immediately after the death of Justinian is due to a great extent to the policy of that emperor. schemes were magnificent, his ideals mostly good, but the empire could not bear the expense of continual war and conquest without overstraining itself The period which falls between the death of Justinian (565) and the succession of Heraelius (610) is the darkest of all periods in the lifetory of the empire. During that time the Lombards conquered part of Italy, continual war took place with the the Ostrogoths threatened the capital Avars, war was almost continuous itself, but the danger passed. The with Persia, and the gates of empire Ostrogoths migrated under their were about to be threatened by a great leader Theodorie to Italy, the worse foe than the Persians—the fields of Italy were their share of the Saracens. The anarchy of Phoeas was spoil, the German kingdom was re-lended by the usurpation of the imspoil, the German Kingdom was terrelated by the table of Theodorie and perial purple by Heraelius. After an ils Ostrogoths. Theodorie and perial purple by Heraelius. After an including the subject of the first purple by Heraelius. After an including the subject of the first purple by Heraelius. After an including the subject of the first purple by Heraelius. After an including the subject of the first purple by Heraelius. After an including the subject of the first purple by Heraelius. After an including the subject of the first purple by Heraelius. After an including the subject of the first purple by Heraelius.

his utmost to his guidance Italy flourished, and it restore the former greatness of the would probably have been letter for empire, but the Asiatic provinces Italy had a strong line of Ostrogothic were weak, a weakness due to the klogs been able to follow Theodoric constant internal quarrels, and the

Asiatic provinces slowly but surely began to fall into the hands of the Saracens. The strain of government, tho sense of inability to cope with all his difficulties, broke Heraelius. and then followed a period of almost

ances and extracted tribute. Syria had fallen long before. Egypt was conquered, Northern Africa fell into the hands of the all-conquering Saracen. The power of Islam scemed to be all-eonquering; the struggle of Cross and Crescent seemed to be on the verge of being settled in favour of the Crescent, but on two occasions, when the danger seemed the greatest, the empire was saved by her capital. Twice was the capital besieged by the Mohammedans, and twice were the attacks beaten off; on both occasions Greek fire helped largely in the saving of the city. It is probably that the safety of Constantinople meant also the safety of Europe. The Heraelian dynasty came to an end in blood and anarchy, and the Syrian, Lee III., became emperor (Lee the Isaurian). It is necessary to point out here that by this time the B. E. had become essentially Greek. The institutions were still Roman, but the prevailing spirit was Greek, and almost from the time of the end of the reign of Justinian we can say that the term Greek empire is better suited to describe the emplro than any other term. With the beginning of the Isaurian dynasty we see the commencement of hetter times for the empire. The iconoclastic policy of the emperor, however, has been the cause of the overshadowing of his greatness. Some of his policy was undoubtedly revolutionary, hut most of it was of great benefit to the empire, and the emperor himself was alone capable of creating order out the chaos into which the empire had been allowed to fall. The army and the finances were reorganised, and the Saracens were repulsed. But the exarchate of Ravenna was lost, and some more provinces fell into the hands of the Saracens, but on the whole the rule of Leo was good. Unfortunately the controversy which for one hundred years was to shake the empire began. This was the question of image worship. The history of the period of Isaurian rule is the history of constant Struggle with Dulan Saragon and struggle with Bulgar, Saracen, and Russian, and also of continual re-ligious dispute. The first of the Isaurian emperors were capable men.

of Leo III., the power passed from the hands of the emperor to the hands of his mother Irene. She caused her son to be blinded and usurped the power She died in 802, after she had vainly attempted to negotiate a marriage with Charles the Great, who by his restoration of the Western Empire in 800 had finally and irrevocably separated the two empires. The war with the Bulgars and with the Saracens continued. Constantinople was agaio besieged in 815, and Crete and Sieily passed into the hands of the Saracens. Under Theodora, the widow of Theophilus, the iconoclastic controversy was brought to an end by the council of Nicea in 842; image worship was recognised and restored. In 867 the Isaurian dynasty finally came to an end, and Basil I., the Maccdonian founded the Maccdonian dynasty, which lasted until almost the end of the 11th eentury. During this period the Bulgars were finally conquered by the Greeks, and from the beginning of the 11th century until well on into the 12th the Bulgarians were dependent upon the Eastern Empire. rulo of the Macedonian emperors was noted for its vigour and ability, and during this period the Greeks more than held their own with Saracen, Bulgar, and Russian. At the hegin-ning of the 11th century (1028) the power of the empire passed into the hands of the Empress Zoe, the wife of Romanus III., who caused her husband to be assassinated, and raised in band to be assassinated, and raised in rapid succession to the imperial throno Michael IV., Michael V., and Con-stantine IX. In 1054 Theodora, the sister of Zoe, was made empress, aud on her death, Michael VI., who was in turn deposed by Isaac I. (Com-menus). New enemies now appeared however. The Italian possessions of the empire were being attacked by the empire were being attacked by the all-conquering Normans, whilst on her eastern frontiers a more formidable enemy than the Saracen appeared. The Saracens had been driven out in turn by a fierce, warlike tribe from the interior of Asia—the Seljukian Turk. The destined conquerors of the Eastern Empire had at last reached the fronticrs. appearance almost at the same time of the Normans and the Seljukian Turks bode ill for the empire. The emperor appealed to Europe for help against the Scljukian Turk, and his answer was to him at least unexpected and unwelcome-the first crusade. Diplomacy and care, however, led the crusaders past the treasures of Byzantium to the object of their journey. Conquests made in Asia who kept up the ideals and the Minor were restored to the emperor, boundaries of the empire. Under but the foundation of the Latin king-constantine VI., the great grandson dom of Jerusalem was a smashing

kingdom in the East meant that the chief routes to that kingdom would lie in their territory or through their seas, and that it would be necessary now to protect the empire from the W. as well as the E. The hostifity thus engendered between the E. and the W. was made much worse by the continu d quarrel between the Roman and the Orthodox churches. papacy sinted at unity of empire and ehurch-by peaceful means if pussible, but if not by any or all means. The emperors themselves began to revive the old ideals of a universal enipire, which they hoped to establish by means of the hostility of the papacy to the empire (western). The policy of the Normans was undis-guisedly that of the overthrow of the Eastern Empire. The western policy of the Emperor Manuel Comuenus was very unpopular in the Eastern Empire, and he was overthrown. The empire was not strong, tuxation and oppression had permanently weakened it, the Bulgars were strong enough to reassert their independence, and with the beginning of the 13th century came the nverthrow of the empire. Isnac Angelus and his son, who had been driven from Constantinople. came westward and joined the forces who were preparing for the fourth crusade. They persuaded the leaders, in spite of the opposition of the paparey, to turn asido to Constantinople and to restore them to the thrnne of the empire. The Greek Church and the Roman Church were to be reconciled, and the Crusaders were to receive substantial aid. Isaac Angelus was restored, and the Cru-saders waited outside the city for their reward. But the restoration had been unpopular, especially had the means employed been disliked and the newly restored emperor found himself not unwilling but incapable of fulfilling his promises. The partition of the empire was agreed to by the Crusaders, and a Latin Empire was set up, an empire founded on purely feudal lines, which did more than auything else to disintegrate the Eastern Empire and to prepare it for its ultimate fate at the hands of the Turks. Venice, a rising and increasing power, had seen that the newly establi hed empire should not be a menuee to her own power, and the decline of the Latin Empire was remarkably rapid. The crime of the sacking of Constantinople, and the breaking up of the empire was, however, unpreneditated: eirenmstances had played into their hands, and the leaders of the fourth erusade simply took advantage of that fact. Tho empire was divided up,

blow to the empire of the East. The and all the states were made subordi emperors saw full well that a Latin nate to the Latin emperors, the first nate to the Latin emperors, the first of whom was Baldwin of Flanders. Of whom was Bandwill of Fainters, Opposition to the Latin Empire was quickly organised. Ten years after its commencement it had begnn to de-cline, and in 1261 Constantiumple was captured by the Greek empernr, Michael Pakeologus. Even after this recovery the empire was again menaced by Charles of Anjon, who proposed to restore the Latin Empire, but was assassinated in 1282, before he could set out on the expedition. The next century and a half marked the increase in power of the Turk and The Servians, after the Servian. ernshing the Bulgars, were themselves finally crushed towards the end of the 14th century by the Turks. Turks gradually won possession after possession of the Eastern Empire in Asia Miuor, and then, about 1360, crossed over to the mainland of Europo. The emperors fought well, they appealed to Europe, they did all they could to prevent the final conquest of the conpire, but they failed. Europe did not rally to their help, the Turk gradually conquered the while of the Balkan Penlinsula and threatened Hungary. An attempt was made to crush the Turks, but although one victory was won, the Turks continued their yieldright was won, the larks contained their yieldright course. At the beginning of the 15th century the Mongol defeat of the Turks cheeked their career, but by 1420 they had recovered, and Constantinople was again attacked. In 1443 the Christians who had relied to the below tians, who had rallied to the help of the empire, wan a victory which, however, was fully avegged in 1444

at Varna.
In April 1453 began the final siege of Constantinople, and in May the walls were breached and the city taken, the Emperor Constantine XI. falling in the final assault. The eity was captured nn May 29, 1453. With the fall of Constantinople we can say that the Eastern Empire fell. Parts of it held out under their local leaders, but they were easily erushed, and by 1460 the whole of the Bulkan Penin-sula was in the hands of the Turks. It had been inevitable since the Normans began to expand eastward and the Turk westward, that the empire should fall. The disruption of the empire in 1204, however, gave it a shock from which it could never recover, and which led more than anytling else to its ultimate conquest.

Art.—By Byzantine art is meant the characteristic art of the B. E. We can affix no absolutely definite date for its commencement, but we can practically take the period which saw the separation of the Eastern and Western Empires as the period of the beginning of this art. It had enormous infinence both upon the E. and the W. Up to the period of the separation of the empires we may regard art as ing is considerable. Tho exact period that of the classical period, and By-tailing is considerable. Tho exact period that of the classical period, and By-tailing is considerable. The exact period that of the classical period, and By-tailing is considerable. The exact period that of the classical period, and By-tailing is considerable. The exact period that of the classical period, and By-tailing is considerable. The exact period that of the elassical period, and By-tailing is considerable. The exact period that of the elassical period, and By-tailing is considerable. The exact period works almost fall in with the Graco-tent be regarded as Roman art the reign of Justinian. The architects of this period were mathematicians, and produced several works on mechanics. In history, for a short time into prominence though nn great genins appears, there can and elastication of the torians and chroniclers who wrote not the characteristic of Byzantium in the fall of the city in 1453. This was in the fall of the city in 1453. This was in the fall of the city in 1453. This intention is can be remarked to the constant in the fall of the city in 1453. This intention is can be remarked to the constant in the fall of the city in 1453. This intention is valie in many departments of learn-different in the fall of the city in 1453. This intention is valie in many departments of learn-different in the city in 1453. This was in twell in many departments of learn-different in the city in 1453. This was in twell in many departments of learn-different in the city in 1453. This was in twell in many departments of learn-different in the constant in the city in 1453. The architecture in the product of the learn-different in the city in 1453. The which culminated in the movement. Other great Byzantine art were the

Ivory earving and silk pattern weaving also were developed under Byzan- thtine influence, and reached a great of pitch during the period of Byzantine founded by the Megarians about the

Byzantine Literature, the litera-ture written in Greek from the period when Constantine moved the capital the hands of the Persians, but was

reliture, both of which found n coinit these are Anna Commena, Cinnamus,
mon meeting ground in Constantinople. The two chief types are the
desificon type and the circular or
central type. Of the latter type the
central type. Of the latter type the
composition of the composit San Vitale (Ravenna), whilst the out- goras a history of Constantinople, standing example of the magnificence. Nicetas Acominatus a history of the of Byzantine architecture is to be Byzantine emperors. These are but lound in the church of Holy Wisdom a few of a maze of names, many of (St. Sophia) at Constantinople. By whose works were collected by Nic-zantine decoration differs from thot huhr and others and published in of the W., especially from that of 1828-53 as the Corpus Scriplorum Gothie ort, since it is always flat and Historæ Byzantinæ. Rhetoric was lucised and contrasts with the bold, also cultivated, the chief names being outstanding decoration of the Gothie those of Johannes Doxopater, Aloxis type. That Byzantine art had a great Comnenus (emperor). Georgius of influence upon the W. cannot be Cyprus, and Demetrius Cydones. The doubted, since the influence of St. study of the philosophics of Plato and Mark's (Venice), which is essentially of Aristotle never ceased from Proclus Byzantine, has been very great; and in the 5th century till the great undoubtedly not only in architecture. Michael Psellus in the 11th, though but olso in painting the E. was re-this study was not a favourite one sponsible for the revival of interest. The discussion of theological problems which culminated in the of the great intellects ie well-known names Cyril, Photins, and

Byzantine art were the paintings. These have been eon-defined because of the lack of eximine and first, and defined because of the lack of eximine art many of the figures. But it is necessary to remember that It was almost impossible to represent the great secues and topics usually denoted by Byzantine art in any other manner, and that the characteristic study of the ancient anthors was types of Byzantine metal work and characteristic of the topic which they represent. Byzantine metal work and the history of the art of the world. This came under very great influence from the E., and in time came to be regarded almost as a barbarie art. Ivory carving and silk pattern weaver. eupying

ren hills It was year 657 B.C., and quickly, owing to its position, became a town of considerable importance. It passed into Byzantium

freed from their control by Pan-colony. Severus attacked and cap-sanias the Spartan. During the tured it, levelling it to the ground, Peloponnesian Wnr it was a constant and afterwards rebuilding a consource of contention between the Athenians and the Spartaus, falling steing the advantages of the natural into the hands of each party in turn. position of the eity, made it his new During the period of the greatness of Alexander the Great it passed into the liands of the Macedonians. It struggled The emblem of the erescent was against and repelled threatened invasions of the Gauls, and for some time enjoyed a certain amount of during their possession of the Cauls, and for some time enjoyed a certain amount of during their possession of the city. Independence. It became an allied The town received the name of Coacity of Rome, but was later reduced stantinople when it was rebuilt and to the position of an ordinary Roman occupied by Constantine. source of contention between the siderable portion of it. Constantine,

c, the third letter of the Roman the blow-hole are some dozen small alphabet, was originally equivalent conical teeth. In front of the blowsent the hard sound of the Greek κ , as well as the soft g. About the 3rd century B.C. the letter g was adopted to represent the soft sound in C. Consequently, when the letter C was introduced into Britain, it was used only to represent the hard sound of k. Cf. O.E. cyn, brean, roc, with Mod. E. kin, break, rock. C before e, i, y in English, French, and Italian tended to become palatalised to a sound resembling tsh, tch, and finally ch. Cf. Lat. castra, a camp, with O.E. ceastre, Mod. E. Chester. The k sound of C was still retained when followed by a, o, u, or a consonant other than h. Cf. O.E. call, corn, cuman (come), dear, with their modern equivalents; bat G before e, i, and y, when it retained the k sound, was written k to avoid confusion. Thus O.E. eming came to be written king. The palatalised C before e and y was written ch, as in French. Thus. O.E. rice, cild, has devoloped into Mod. E. rich, child. O.E. ew was abandoned, and the French aw or an adopted. Cf. O.E. ewen, M.E. quene, and Mod. E. queen ; O.E. ewedan, Mod. E. quoth.

C, in music, is the name applied to one of the notes of the gamut. The scale, because it has neither sharps are nor flats. The scale of C man two flats, E and A. C is also used to two flats, E and A. C is also used to

crotchets in a bar. Caaba, sec KAABA.

Caaing Whale (Globiocephalus melas), a cetacean of the dolphin family, is variously known as the Pilot-whale, the Black Fish, or the Social Whale. The name 'easing' is derived from a Scottish word, caa, to drive. These whales, which feed chiefly on cuttle-fish, are mild in dis-position, and are not only very grogarious, but are also more often stranded than any other species. At Hoalflord, Iceland, 1110 were caucht during one winter (1809-10). and shoals of 100 are not uncommon. Except for a white strenk under their stomach the C. Ws. are black: their skin is quite smooth. At the tail there more far-reaching influence at the

la sound to the Greek y. At a later holo is a lump of fat. Generally speak-period the Romans used C to repre-ing, the head is flat and broad. This genus of whale is found in almost every sea.

Cab, see CABS.

Cabal (Fr. cabale, Heb. kabbáláh, something received, with an idea of secrecy). The term was originally applied to the notorious ministry of Charles II., consisting of Clifford, Ashley, Buckingham, Arlington, and Lauderdale, who held office during the years 1667 to 1673. The word is now applied to any intriguing faction that works in secret for private or political ends.

Cabanel, Alexandre (1823-89), a French painter, born at Montpellier and studied under Picot. In 1845, ho won the grand prix de Rome at the same time as Benouville. After reeeiving various other honours, he became, in 1863, a member of the Institute, and professor in the Ecole des Beaux-Arts. Attention was first called to him by his 'Death of Moses' (1852), and his reputation was thoroughly established by the works which followed: 'St Augustine and St. Monica,' and 'The Florentine Painter.' C. distinguished himself in genre, historical and portrait paint-ings. In the last kind he was long scale of C major is called the natural matchless, and his feminine portraits distinguished aristocratic by delicacy and grneefui colouring. E and A. C is also used to Other of his works are: 'The Christian common time, i.c. four Martyr,' The Death of Venus,' and Adam and Eve.

Cabanis, Pierre Jean Georges (1757-1808), a French physician and writer, born at Cosnae, Charente-Inférieure. He studied in Paris. and in 1773 went for a short while to Watsaw, but re-turned to Paris to study medicine. During the Revolution he ucted as physician and friend to Mirabeau; in 1797 ho was made elinical professor in the medical school at Paris, he was elected to the Fivo Hundred, and, under Napoleon, became a member of the Senate. C. wrote extensively on medicine and on metaphysics. Lettres sur les causes premières expresses his belief in immortality and in a living and personal God. is a hig fork. The fore limbs, which time was Rapports du physique et du are about 5 ft. long, join the body moral de l'homme, pub. by Piesse in very low down. The front of the skull 1844. The Journal de la maladie et la nose-shaped, and above and below de la mort de Honoré de Mirabeau

1903.

reality descended from the one or two species still to be found growing wild on the Mediterraneau coast. In any case the cultivated varieties now differ very much from the original kind. The wild C. is a somewhat insignificant plant, growing from one to two feet high, resembling in appearflower and broccoll. 5. All leaf-buds active and open, with the flowers abortive and succulent, as in sprouting broccoli. A very interesting variety of C. is grown in the Channel variety of C. is grown in the Channel Is., known as the Jersey C. Its usual height is about 8 ft., but it has been known to reach a height of 16 ft. The central stein is so woody that it is used for the making of walking. sticks. Some varieties are evon cultivated as ornamental plants on account of the beauty of their leaves in form and colour. Brussel sprouts resemble miniature Cs. Nothing scens to be known as to the origin of the plant, but according to Van Mons (1765-1842) it was heard of in 1213, by the name of 'spruyten.' It is most hardy i November, and lasting till the following March. The Savoy is a hardy green variety, with the characteristic of producing very crinkled leaves The cardiflower is said to have been brought from Cyprus, where it appears it had been cultivated for ages. It grows well in a rich soil, with a sheltered position, and is a vegetable with a most delicate flavour. Broccoli is a variety of cauliflower. The earliest sowing of C. should be made early in March, to be ready for use in July and August, and another sowing ! should take place at the end of March. to ensure a supply from August to November. The most important of all is the autumn sowing, which should be made the last week in August.

Cabbage Butterfly is a name com-

(1791) was written in answer to a which feed on the leaves of crucicharge that C. had poisoned his ferous plants, especially of cabbages, friend. Consult Dubois, Examen des The Large White (Pieris or Pontia docfrines de Cubanis, 1842; and La brassicæ) is a very common variety brousse, Quelques notes sur Cubanis, in Great Britain. The expanded wings measure 3 in. aeross, and are white Cabbage (Brassica oleracea), native with black edgings and spots. The to Britain, though it has been said by female, which is the prettier, lays her Alphonse de Candolle that it is in vellow eggs in clusters on the leaves of caterpillar food. The fully-grown caterpillar sometimes measures 14 in., and will cat twice her own weight of leaf in twenty-four hours. After it has hung for some time by its tail from a ledge, it is changed into a shining pale green chrysalis. butterfly, which, in the case of the autumn brood, waits till winter is two feet figh, resembling in appear ance the corn mustard, the only dif-ance the corn mustard, the only dif-servence being its smooth leaves. The past before coming out, lives daintly following is a classification of the on nectar. The Small White, or Tur-several kinds of cultivated Cs.: 1. All 'nip Butterfly (Pieris rape,) has a the leaf-buds active and open as in 'wing expansion of about 2 in, lays its the wild C. and kale. 2. All the leaf eggs singly on the under side of buds active, but forming heads, as in vegetable leaves, and produces a Brussel spronts. 3. Only the terminal velvety caterpillar which devours the leaf bud active, forming a head, as in learts, instead of merely the leaves, common C. 4. The terminal leaf-bud of cabbages. It is often, therefore, a alone active and open, with flower-dangerous pest. The chrysalls is abortive and succulent, as in cyclic brownish-yellow with black spots. The third variety, the Green-velned White Butterlly (Pieris Napi), which is similar to the former, cannot multiply so fast, because both the butterfly and its caterpillar are a favourite food of small birds, wasps, and insects.

Cabbage Palm, or Cabbage Tree. There are many different species, the principal being the Arcca oleracea. It is a native of the West Indies, where it often grows to the height of 100 ft. It owes its name to the fact of the terminal bud being edible, and in form resembling a cabbage. The removal of the terminal bud quite

destroys the tree.

Cabbala (Heb. kobbáláh, comething received, hence tradition), the designation of a mystic system of philosophy, theosophy, and magic, once prevalent among the Jews. Its popularity began in the 12th century and continued till the 16th. It has now few adherents-these for the most part in Eastern Europe. Cabbalists taught a pantheistle doctrine that there was one Being and that nothing existed but this one Being and its manifestations. God. therefore, was an Absolute Being, and from Him emanated ten attributeswisdom, understanding mercy, and the like—that as this Being became conscious of its existence, it poured it-elf through 'channels' into the world of oure spirits and angels, and into the lower world, which thereupon came into existence; that the soul of man passed from body to body, till it finally returned to and became mon to several species, the larvæ of absorbed in God. Their teaching was

philosophy of Plato, combined with the thrower. the degenerate philosophies of the Neoplatonists and Neopythagoreans. The Cabbulists attached much significance to numbers. The fact that every letter in Hehrew stands for number enabled them to read into the Scriptures many stronge doctrines. Every passage was regarded as symbolic and interpreted thus. It was claimed that their doctrine had been revealed, occording to some, to Abraham, and, according to others, to Adam; the tradition was passed on by word of mouth until it was felt necessary to put the mystic lore into a permanent and written form. The anthoritative documents of C. are: (1) The Sefer Jestrah, Book of Creation, supposed to investeen written by Rabbi Akiba (d. A. D. 135). The existing document, from internal evidence, belongs to the 8th century or even to a later date. It consists of n series of monolecties put into the mouth of Abrilian. (2) The Sefer Hazzahar, Book of Light, commonly called Zohar. This has been useribed to Slineon ben Joehni, a disciple of Akiha, but, like the Sefer Jezirah. belongs to a inneh later period. It is written in a form of Aramale which shows it to have been composed in the 12th or 13th century, and some modern scholars have suggested that the author might have been Moses de Lean of Spain. The ductrines of the Sefer Jezirah are here set aut in f Other Cabbal much greater detail. l-tic writers were: Moses hen R. is Ramban! Mirandola

Renchilo (De arte Cabbalistica, 1517). Consult Knor

bala Denyda Philosophia

Ginsburg, The Kahbala, 1865. Cabeiri, The, are a group of mystle deliles in Greek mythology who have been variously identified with Demeter, Persenhone, and Rhea; with the Dioscuri, and with Hephrestus or Dionysus and Hermes. They were They were worshipped at. Lemnos. Imbras, Thebes (the Bootlan), and Perganus. but above all at Samothrace, where there were pilgrimages and a very elaborate ceremony of luitiation.

Cabello, see PUERTO CABELLO. Caber, Tossing the, 14 especially a Scottish sport—a consplenous event in most Highbond games. It consists In throwing a tree trunk, often 20 ft. long. In such a way that, after spin-ning in the air, it will fill in a straight line with the 'tosser,' the smaller end being furthest from him. The enter,

chylensly influenced by the idenlistic, hurled as far as possible away from

Cabes, or Gabes (andt. Tacape), a port of Tunis, situated on the Gulf of C. (the noet Syrtis Minor). The imphonr is shallow, but considerable trade is carried on by means of small vessels. The chief exports are fruit, wood, and esparto grass. There is an Arabic school, and the place is the seat of the provincial governor. Pop.

about 12,000. Cabet, Etienne (1788-1856), French communist, was the son of a cooper of Olion. Under Louis-Philippe he became procureur général of Corsica, but was forced to resign because in his Histoire de la Révolution de 1830 (In which he had played a small part) he represented the government for its concervatism. Other bitter attacks on the government, made in the chamber of deputies of which he was a member, led to his voluntary exile In England (1834). On his return to France in 1839, after the declaration of a general amnesty, he published a fleree history of the Great Revolution in four volumes (1840), and later his Voyage in Icaric, a romance wherein he expressed his communistic ideals. Determined to put some of them into practice, he sent out in 1818, with the approval of Robert Owen, whose teaching and personality he had learnt to admire in England, a colony of 1500 'learlans' to a tract of land in But the community of proporty, which was to have been the special feature of the settlement, proved an utter fallure. In 1849 C. idenself sailed to America, and transferred the settlers to Nauvon in Illingis. For a time he ruled his little land like an autograt, but was finally bunished in 1856, the year of hisdeath. Cabeza del Buey (* head of a bni-

lock'), a to, of Spain, in the prov. of Badajoz, 86 m. E. by S.E. of that There are manufactures of linen eity. and woollen goods. Pop. 7000,

Cabin (it. capanna, Sp. cabaña); 1. A small room in a ship used as a eleeping apartment. A swinging hummack or cot is sometimes called a langing C. 2. A rude shelter or hut, used by primitive races, explorers, and Scottish and Irish peasants.

Also a temporary shelter for stores.

Cabinda, or Kabinda, the cap, and the name of a ter. in Portuguese W. Africa. In the dist, of Angola, N. of the Congo. Ifas n coast trade and builds honts. Pop. over 9000.

Cabinet, a term recognised by the conventions of the constitution but not by the law, applied to the body of men who are chosen from the predominant political party of the day the diameter of whose thin end should to fill the highest executive offices in not be more than 3 in., must also be the state, and who, by their apparently government of the empire, and are collectively responsible for every act

of the Crown. History of the cabinet. - There were indications of an inner conneil

hut they are of an indefinite nature. It is well established, however, that the C. of modern times is an emanation hy a long process of evolution from the king's Privy Council, wherehy each council increases in numbers until a nucleus forms inside it which in its turn grows larger and absorbs the parent hody, only to be subject itself in time to a similar metamorphosis. Even before the Conquest there always existed a body of advisers of the Crown distinct from the General Assembly. After the Conquest that holy was known as the Continual Council, or Concilium Ordinarium, and was in effect a permanent committee of the National or Common Counell, which became merged in the larger assembly whenever it was convened. the royal prerogative. Under the weaker monarchs it was virtually independent. Then the Common Council gradually evolves Itself into the National Parliament, and the Concilinin Ordinarium hecomes a strictly official hody distinct from it and wielding enormous executive powers. its members being bound by a special oath of fidelity and secrecy. During modern cabinet.—The C. or ministry the reign of Henry VI. a nucleus of the day is a committee of leading executive matters, lapses into a hody of legal advisers or figures in the Star Chamber. The Privy Council con-tinued to be the king's advisers down to the reign of Charles II. That monarch found its numbers too large and the restraints it imposed on his actions irksome. Ho therefore resorted to the practice of confiding in a 'cahal' or elique of confidants. Sir William Temple eventually persuaded him to ogree to the alternative plan of forming a select committee of the 1689 or shortly after. The Privy Council has at the present day no executive or deliberative functions, General and the First Commissioner but is really a constitutional machine of Works are sometimes but not existing for the purpose of carrying necessarily members of the C.

The result of the establishment of

or really unanimous policy, direct the The Cs. of William III. and Anne were chosen from both Whigs and Tories for the most part. William III. was strongly opposed to government by party, but from force of circumstances began after 1693 to entrust of the state before the Tudor period, the chief administrative offices to the Whigs. The resulting body was popularly known as the 'Junto.' When larly known as the 'Junto.' When the Whigs went out of power the ministry did not feel compelled to resign. Queen Anuc was especially averse from party government, and it was only after the accession of George I. that party government, or parliamentary government by means of a ministry composed nominally of king's servants but actually of an executive committee representing the will of the majority in the House of Commons, becomes finally and firmly established, a result due rather to the fortuitous circumstance that hoth that monarch and George II. acquiesced in the dumination of their ministers, and absented themselves from the deliherations of the C.. ever it was convened. Nominally, partly hecause they could not under-this committee was the instrument of stand English and English affairs. and partly because they preferred to devote their energies to Hanover. Finally, on the advent of Pitt's ministry of 1783, the idea of a C. consisting of men willing to serve under a prime minister, and to adhere to a definite programme, becomes an established necessity.

the reign of Henry VI. a nucleus forms within the Concilium Ordinarium called the Concilium Privatum, or Privy Council, constituting the king's constitutional body of advisers, while the Concilium Ordinarium, no longer consulted on main with the opinions of the most important questions of the time arree in the executive matters, lapses into a hody of the House of Commons. The C. of the House of Commons. The C. now invariably includes the five now invarianty includes the first Lord of the Treasury, the Chancellor of the Exchequer, the Lord Chancellor, the President of the Council, and either the Lord-Lieutenant of Ireland or his chief secretary. Lately the Secretary for Scotland and the Presidents of the Board of Trade and the Local Government Board have had seats in the C. A novel feature in 1912 was the inclusion of the Attorney-General, Sir Rufus Isaacs. Nearly all the mem-Privy Council, called the C. Council. Sir Rufus Isaacs. Nearly all the memths distinction between the C. and bers of the C. are chiefs of departitle Privy Council has existed ever ments, but frequently one or two since that time, although the C. experienced ministers are included Council, or C. in its present form for the sake of their advice, and to dates rather from the revolution of these are assigned such offices as Lord 1689 or shortly after. The Privy Privy Seal or Chancellor of the Duchy ent day no of Lancaster. The Postmaster

The result of the establishment of

our system of government upon a representative basis is that the C. is collectively responsible to parliament for the policy it pursues, and, in theory, the members of the C. are obliged to stand or fall together, and to act as ooe man on all questions relating to the executive government, so that if one of them dissents from the rest on a question too important to admit of compromise, it is his duty to resign. When the policy of the C. no longer commands the approval of the majority of the House of Commons, the ministers are in duty bound to

resign en bloque. The C. is presided over by a chief who is conventionally known as the Prime Minister or Premier, but is unknown to the law except in his capacity of First Lord of the Treasury, or as holder of some other execu-Privy Conneil, which latter body by a legal fiction is the constitutional advisory council of the king. definite precedence allotted to him. almost synonymous) is called into constitution, with which the law has existence by the sovereign, generally no direct concern (Dicey). Refore the taking the advice of the outgoing establishment of the principle of premier as to who shall be sent for and asked to form the new ministry. In practice the sovereign's choice is really limited to some two or three names at most, for political usage has established the claim of the leader of the dominating party or coalition of parties to be sent for by the monarch. According to Bagelot, if any one else were sent for it would be his duty to press the claims of the true leader, and he eites the ease of Lord Granville being invited in the first place to form a ministry Instead of Mr. Glad-stone. The new premier then chooses his fellow C. ministers, but custom does not permit him to exclude cx-ministers helonging to his party. Io theory all members of the C. should defer to the premier, and if they differ on a vital question of principle, they ought to resign. Differences of opinion when publicly manifested bring the C. to an end, because by the conventions of the constitution all the members of the C. are jointly and severally responsible for all its measures. A definite split in the C. makes it incumbent on the premier, after endeavouring to bring his colleagues into agreement, to seck as a last resource an interview with the king.

The relations of the king and the C. are such that the king is constitu-tionally obliged to take the C.'s advice, lend it his moral and social support, and dismiss any high government official who opposes its wishes. The C. is bound, as is each individual secret.

member, to inform the king on all important measures of the executive, but the premier has the exclusive right to approach the sovereign personally on all important matters of state. Other ministers, however, have a right to discuss with the king matters merely departmental.

The phras ity, which i treatises on nature and which, in its strict sense, deootes the

legal responsibility of every minister for every act of the Crown in which he takes part, is a convection result-ing from the theory that 'tho king can do no wrong,' and from the re-fusal of the courts to recognise any act as done by the Crown which is not done in a particular form-a form in or as holder of some other execu-general involving the affixing of a tive office, and as a member of the particular seal or the counter-signa-Privy Conneil, which latter body Ministerial

that minisif they are The premier now has, however, a unable to retain the confidence of the House of Commons is a theory de-The C. or Ministry (the terms being pending on the conventions of the

> ant legal reto impeachnt of milder

manners it now means responsibility to public opinion or liability to lose office, for, as Sir William Anson points out, ministers act under such close and constant criticism that they are

unlikely to break the law. No C. can take or retain omee without a working majority, though it is difficult to state precisely what would constitute such a majority. A modern C. would not retain power for a week if a vote of censure were passed by a newly elected House of Commons. It is, as Mr. Dicey points out, difficult to ascertain the signs by which one is to know that the House of Commons has withdrawn its confidence from the C., a difficulty which is analogous to that which perplexed the statesmen of two centuries ago, namely, to deter-mine the point at which a minister was hound to consider that he had lost the then essential confidence of the king. The king can, if he chooses, dismiss the C., but such conduct, though legal, would geoerally be meconstitutional. To dismiss a C. which commanded the confidence of the House of Commons for the time being would only he justified by the return of a majority for the opposite party at the ensoing election.

The C. is a wholly secret body. Its meetings are in theory and in reality secret. Nor is any non-member powers by law vested in the sovereign bers of the C. Whatever in legal theory the British polity may be, this governing machinery of the British

Constitution. While the foregoing is the generally combining committee - a hyphen which fastens the legislative part to while in its origin it belongs to the one, in its functions it belongs to the other; and that though it is a committee of the legislative assembly, it is a committee which can actually dissolve the parliament which appointed it, and appeal if it chooses to the next parliament. His theory is a refutation of the dorma that in our polity the legislative and exceptive powers are entrusted to separate sets of persons, each independent of each other, and asserts that the peculiar excellence of the Euglish Constitution is the practical fusion of the executive and legislative powers through the C. In comparing the C. with the presidential system of the U.S.A., in which latter system the legislative and executive powers are independent of each other, Barehot comes to the conelu-ion that the C. system is superior in that it facilitates administration, obviates the disidvantage of making the people the real executive-choosing body, eliminates corruption, and gets rid of the antagonism between the legislature and the executive which,

allowed to be present at its sittings, the Houses of Parliament and the except on rare occasions, when some departmental official is summoned to give special information. No official record or minute is kent of its proceedings, except by the premier for communication to the king. Disclosures of C. decisions are now made only with the permission of the soveriers, such permission in practice being obtained through the intervention of the premier. The result of the evolution of the powers of the Crown and the preparative. The allowed to be present at its sittings, I the Houses of Parliament and the of the evolution of the powers of the Crown and the percenture. The the C. Conneil is that that body is decisions they take are taken under de factor the government of Great the competing pressure of a bias this Britain, the king being, as Mr. way and a bus that way, and strictly Trail says, but the visible symbol represent what is termed in mechanics, of power. It is true that it is necess the composition of lorces. Such a sary to consult the sovereign before description could not be applied to a any definite step is taken, even presidential system like that of the though that step is in the direction of U.S.A., where the president is elected legislation. But practically all the for a fixed term. Mr. Dicey, however, justly doubts whether the English are in practice exercised by the mem- | Constitution may not be undergoing an insensible change due to the in-creasing authority of the electorate. in reality is the form of the active lie behaves a general election may in effect be a popular election of a particular statesman to the premicr-ship, and that the time may come when, though all the forms of the accepted view of the position and when, though all the forms of the functions of the C., it is to be observed constitution remain unchanged, an that Bagehot, in The English Com, English prime minister will be as statution, acutely defines the C. as a truly elected to office by a popular vote as is the American president.

Bibliography.-An-on, Law and while in its origin it belongs to the The English Constitution; Bouting, Studies of Constitutional Law: Dicey, Low of the Constitution: Halland, Constitutional History of England; Stubbe, Constitutional History of England; Taswell-Langment, England; Taswell-Langment, England; Constitutional History; May, Constitutional History of England; Toud, International Constitutional History of England; Toud, Parliamentary Government in England; Trail, Central Government; Gladstone, Gleanings of Past Lewis: West, Recollections; Lowell, Government of Engand, Cabinet Noir, a special secret de-Studies of Constitutional Law: Dicey,

Cabinet Noir, a special secret department of the postal service, in which letters may be opened and read, then reclosed and sent on. This system was first organised in Franci under Louis XIV., and was destroyed with all systems of the same nature at the revolution. It was ugain established under Napoleon, but was given

up on the formation of the republic.

Cabiri, see Cabring, The.

Cable, a large rope or iron chain used on ships to hold the anchor.

Cs. are made of hemp or jute. of springing from the fact that the raivanised or zine wire, and of chain-House of Representatives is created Rope Cs. vary from 5 to 25 in in by one process and the president by circumference. Hemp and wire ropes another, ends in the impairment of are used for towing and mooring each. The delicate relations of the C, purposes, whereas chain ropes are to the Crown on the one hand and to used on steam-hips, where they can

engiaes. Chain Cs. are made iu links in 121 fathour lengths. In the mercantile service the chains are made in 15 fathour lengths. For Submarine Cables, see Telegraph; Cable Tramways, see Tramways; see also under CHAINS.

Carle, George Washington (b. 1841), American author, entered the 4th Mississippi cavalry of the Confederate army in 1863, and at the close of the war began his journalistic eareer in his native city, New Orleans. His Old Creole Days, which is a series of sketches of the old French-American life of New Orleans, first appeared la Scribner's Monthly, and served to introduce to the public a writer peculiarly gifted with descriptive pewers and with a sympathetic insight into both the lumorous and pathetlo sides of life. His first novel. The Grandissimes (1880), givos an accurate picture of Creolo life in Louisiana i contury ago. The Creoles of Louisiana (1884) was a history of the people, revealing their status in the civil life, and unfortunately roused considerable indignation among the Creeles themselves. In his Dr. Sevier (1883), which is probably his finest work of fiction, he reproduces with remarkable success the gentle French-English dialect of Louislana. Life in the mnrshy lowlands at the mouth of the Mississippi is faithfully depicted in his short stories, Helles Demoiselles Pluntation. His other books are Bonaventure (1888), The Cavalier (1901), and Kingaid's Battery (1908). For some time also he edited Current Lilerature, a New York monthly. In llterature C. has suggested fresh and higher ideals for the lilstoric novel. It is always his alm to represent in their traest light all real people or real events that he chose to bring into his

Caboched, see HERALDRY. Caborne, Caborne, Commander Warren Frederick (b. 1849), English naval efficer. He entered the Mereantile Marine, 1865, joining the Royal Naval Reserve as sub-licutenant, 1879. C. commanded a transport in the Burmah Expedition, 1885-86, and was later In the Egyptian constguard service. Since 1900 he has been a member of the council of the Royal United Service Institution. Ho is deputy-Service Institution. chairman of the Shipwreeked Mariners' Society, and interested in many other associations in connection with the navy. He has published various lectures and articles on naval and ether subjects. C. retired in 1894 with the rank of commander.

Cabet, Jehn (Cabetto, Giovanni) (1450-98), discoverer of N. America, was a Genoeso who became a natural-

be moved and manipulated by steam ised Venetian, and who finally settled as a merchant in Bristol. reached England that Columbus had discovered a vast new territory across the seas westward, and C., who had once been to Mecca and seen the richly-laden caravans come in from the atternost regions of Asia, determined to follow in Columbus' footsteps and to seeme for England a new trade route with the wealthy Asiatic marts, this time by ocean transit. This in 1496, having secured letters patent from Henry VII., C. set forth in the Matthew, and after fifty-two days' sail landed on Cape Breton Is.. where he planted the royal flag. Though he found a fertile soil and a discovered temperate climate he neither the silks nor precious stones for which he had come. In 1498, with fresh lotters patent, he set out on his second voyage of discovery. Ho had heard from Joan Fernandez about Greenland, and thinking it part of the Asiatic continent, made his way in that direction. But once more, though he explored E. and W. the coasts of Greenland, reached Baffin Land and lighted on Newfoundland and Nova Scotia, he was obliged at length to return home, baffled in his search for Cipangu, or Jupan, which was to have been the open door through which England passed to reach spices and the fine merchandise of the East. To C. must be credited the discovery of Newfoundland and other fisheries.

Cabet. Sebastiano (c.1474-1557), a navigator and cartographer, son of Giovanni C.; probably born at Venice, but his bp. and the date of his birth are allke uncertain. He has often been confused with his father; it appears more likely that it was Glovanni who undertock the voyage to the N.W. Passage about 1496.9, although his son may have accompanied him In 1512 Sebastiano won a reputation in England as a cartographer. He appears to have prepared maps of Gascony and Gnienne for Henry VIII., and later in the same year to have been commissioned by Ferlinand V. of Spain for a similar purpose. On the death of Ferdinand in 1516, C. nhandoned his projected voyage to the N.W. and returned to England in the following He again entered the service year. of Henry, and on his behalf set sail from Bristol on a voyage of dis-covery to Hudson Bay and Hudson Strait. (Donbts have been raised as to whether this voyage ever took place.) In 1519 C. was appointed pilot-major by the Spanish king, Charles V. In 1526, after a dispute between Spain and Portugal regarding their respective trading rights with the Molnecas, C. was sent ont

Plata and sailed up its tributary, the Paraguay, but his attempt to make colonics was a failure. Consequently, on his return in 1530, he was imprisoned for a year and exiled to Orao in Africa for two years. He was subsequently restored to his former post of pilot-major, but in 1547 re-Adventurers (1553), which opened British trade with Russia. He

appointed governor to this company, in 1010 no issued a manness and inspector of the English navy ling the rebels to submit to the re-

Consult Beazl

Cahot, 1898; (1869), Harrisse (Eng. translation, 1896), Dawson (1895), and Weare

(1897).

Cabourg, a French vil. in Normandy in the dept. of Calvados on the Dives, 11 m. distant from Trouville. It is a favouri · account of tho and the attraegood st

tions there is a fine casino.

Cabra, a tn. 28 m. S.E. by S. of Cordova on the Jaen-Malaga railway in the province of Cordova, Southern Spain. Its old castle and cathedral are interesting remains of the Moorish settlement. Pop. (1900) 13,127. Cabral, Pedro Alvarez (1460-1526),

a Portuguese navigator, who was sent in 1499 by the King of Portugal to establish a factory on the Malabar coast in India, and to win the friendship of the Rajah of Calleut. C. took a westerly course, landed on the coast of Brazil, and took possession of pa of the neighbouring country. He seone of his ships back to Portugal announce his discovery, and with his (Pepy's 'haequenée') was in its turn other ships he set sail for India. During the voyage four of his vessels vented by Mr. Boulnois. In this were lost, and among those who vehicle the occupants faced one perished was Diaz. C. reached Calicut. and after several encounters with the natives, established a factory there. He continued to explore the Malabar coast, and returned to Portugal in 1501 with rich cargoes.

Baylen in 1808, many French prisoners were sent to C., where they were eruclly treated.

Cabrera, Ramon (1806-77), Carlist leader, was educated for the Church.

by Charles V. to explore the coast-which broke out, as a staunch ally of line of Brazil. He entered the R. La the pretender Don Carlos, who was supported by the absolutist party. During the war which followed he distinguished himself no less by his eruelty than by his bravery. It is sald that he shot 100 officers and 1100 prisoners of war to avenge the murder of his mother. In 1839 Don Carlos rewarded him with the governorsigned, and soon after was welcomed generalship of Valencia, Murcia, and In England by Edward VI. C. was Aragon. Driven across the frontier chiefly instrumental in promoting and to France in 1840 he was indignant directing the Company of Merchant when in 1848 his leader abdicated his

(1547). C's map, showing the dis-coveries of lilinsell and his father, can lis marriage with a rich English wife be seen in the c the causes of this signal act of

oyalty.

Cabs are a form of horsed vehicle for carrying passengers with two or four wheels. At the beginning of the 19th century the cabriolet de place, invented about 1650 by Nicholas Sauvage, was introduced into London from Paris. The first eight licensed cabs-this shortening was adopted as early as 1825—appeared on London streets in 1823. Besides the driver they could carry two passengers in-side and were run for fares which were one-third less than those of the hacknoy coach. A contemporary newspaper refers to the fact that cabriolets were in honour of his majesty's birthday introduced to the public this morning '(April 23, 1832). These C. stood for hire in Portland Street, W., were painted yellow, and were limited in number to twelve. But the limit to their number was soon removed in spite of vested vbich had

ier coach vehicle the occupants faced one another and the driver sat on top. Finally in 1836 a larger C., a cheaper imitation of the brougham, came into use. The modern Clarence four-wheeler is only an improvement of this design. As a rival to 'the growler' the 'hansom' was patented in 1834. This consisted originally of a square framework on two wheels with a ous, and fishing is an important in- 7½ ft. diameter. Its greater speed, dustry. After the capitulation of due largely to its lightness, and its spruce appearance and pleasant bounding motion make it a matter of regret to many that this means of street locomotion has to day practi-cally been banished from the metrobut on the death of Ferdinand he tropolls by the taxi-C. (motor), and Instantly joloed in the civil strife is fast disappearing from provincial towns as well. In 1886 there were and 'Miraele of the Loaves,' at 3997 four-wheelers and 7020 hansoms Chieri. Two of bis daughters were la London. The advent of the petrolphinters.

Caccini, Giulio (c. 1546 - c. 1615), Acts, 1831-53; the Metropolitan and madrigals, with instructions in Public Carriages Act. 1869; the the art of singing. C. has been delondon Cab Act. 1896; and the scribed by Angele Grello as 'the Loudon Cab and Stage Carriage Act father of a new style of music.' of 1907. These acts protect drivers ingers, regulate

and stand for the just fares and the rules for hiring. Thus within the four-mile radius from Charing Cross the fare is one shilling for the first two and sixpence for every additional mile; outside the radius the faro for each additional mile is a shilling. Licences, which are only granted to men of approved character who have satisfied the authority that they have studied the topography of the place, are issued by the commissioner of police, who is authorised to do this by the Home Sceretary.

Cabul, see KABUL.

Cabuyas (formerly Tabueo), a tn. on the Is. of Lucon, in the Philipplnes, situated near the lake of Bay. The cultivation of rice is carried on. Pop. 9500.

as agate, heryl, and jasper, are mined In the neighbourhood. Pop. 8000.

Caccia, Guglielmo (1568-1625), n. calvo ' from his long residence there. Probably a pupil of Soleri. He painted known and prized in many Italian

driven vehicle discouraged manu-facturers from patenting further im-provements such as indiarubber tyres eian, was born at Rome and studied provements such as indiarubber tyres | cian, was born at Rome and studied etc., for lorse-drawn C. Cabmen's | under Scipione della Palla. About shelters, first established in 1875, by | 1565, he went to Florence, where he providing accommodation for drivers remained as singer to the Tuscan on the stands did much to encourage Court till his death. To him are due sobriety. Taximeters have been widely extended to ordinary hacknev enrigges. These are mechanical containing the containin traffic of hackney carriages or C. In portant production was the Nuove London are the Huckney Carriage Musiche, 1601, a collection of songs

Caceres, prov. and tn. of Spain in Estremndura. Belongs to the Tagus basin, in a rich agric. dist. It is noted for bucon; exports wool, red sausages (embutidos), and olives, and manufs, leather and cork goods. The province contains two bishopries—Coria and Plasencia. Pop. c. 365,000. The town was founded c. 74 B.C., and taken from Moors, 1225. It is on a branch-line meeting the more northerly of the two Madrid-Lisbon railways at Arroyo. It had an old Jesuit college, now an hospital. Education is bad, and the roads poor. There are fine old palaces near. It is probably on site of Norba Cæsarina, but is often connected with Castra

Cacilia. Pop. about 17,000. Cachalot, or Sperm Whale (Physeler macrocephalus), the only representative of its genus, is a large toothed whale, measuring as much as 60 ft. in Cacano, see Coena. length. It is found in all tropical and Cacamo, a tn. in the prov. of subtropical seas, being usually net Palermo, Sielly. It lies 22 m. S.E. by with in a herd or school, consisting E. of that city. Precions stones, such often of some hundreds. The bulk of head, which takes up a third of its body, is made up of tough fat or 'junk,' round which is a great' ease,' Caccia, Guglielmo (1968-1929), ii. Jinn., toma line of the Piedmontese painter, called 'Il Mon-The refined oil from this case yields calvo 'from his long residence there, | 'spermaceti.' This substance is still the calvo 'from his long residence there, | 'spermaceti.' used in ointments, and twelve barrels In fresco and oil; his manner partakes full can be obtained from one fish. more of the Roman than the Bologness school, but he has something of the energy of the Carracei. The hole, whilst the mouth, which is some church of Sant' Antonio Abbate, way behind the end of the snont, is way being the carraction of the snont, is way in the same that the sam work in freseo is the eupola of San quantities may be obtained from the Pholo at Novara. His works were teeth (about twenty-two in number). which line each side of the lower jaw. eities. The Chiesa de Conventuali has This jaw, which is very narrow, may a regular gallery of his pictures, be let down so as to make an enormous Among his heat oil-paintings are: 'St. gape. The throat is said to be wide Peter' and 'St. Theresa,' in Turin; enough to allow the whale to swallow the 'Taking Down from the Cross,' a man. The lead is very massive, at Novara: 'Raising of Lazarns' high and truncated in front; the

which is used in seents, is an in-potassium acetate. is often found finating on the sea.

Pop. about 415,000. Bengal.

too heavy to carry.

Cachet, Lettres de, sce LETTRES DE

CACHITT.

Cachexia (Gk. for 'an evil habit') is a term used in medicine to express a thoroughly unhealthy condition of the bndy, such as that occasioned by insufficient feeding and above all by chronic maladles. Doctors thus speak lead C. (resulting from lead-

It has a considerable export trade in eoffee, sugar, and tobacco. Pop. coffee, sugar, and tobacco. 15,000.

Cacholong is a beautiful mineral, looked upon as a variety of semi-opal. Usually it is milk white in colour, but it sometimes has palo red and yellow tints. It is porous, and has a lustre rather like that of mother-of-pearl. whence it is often called Pearl Opal. The word is likely to be of Tartar origin, but it is popularly supposed to have been named after the river Cach in Bokhara.

Cachucha, a Spanish dance of an oriental time voluptuous, gradually increases in speed until it becomes a frenzied

whirling.

Cacique, or Cazique, a title equivachiefs of Mexico, Peru, Hayti, Cuha, and the W. of S. America at the time of Spanish exploration. More recently the title has been given to chiefs of independent Indian tribes.

Cacodæmon, see DEMONOLOGY.

Cacodyl (Asz(Cllz)4), or tetramethyl diarsine, is a colourless liquid familiar with horteulturists being boiling at 170° C. It is very polsonous Mamiliaria and its smell is so offensive that it Opunlia. was named by Berzellus from a Greek and Echir

flipper is short and broad, and the dorsal fin merely a low protuberance. In colour it is black above, and grey render it intolerable. It is derived beneath. Sperm whales feed chiefly from a product known as 'Cadet's ou squid and cuttlefish and are rarely seen in European waters. 'Ambergris' in 1760 by distilling white arsonic and protassing agents. This liquid is This liquid is testinal concretion of this species; it furning and spontaneously inflammable, consisting among other thing-Cachar, a dist. of British India in of C. oxide and a little C., the latter Assam, connected politically with Cachar Hills tract. It borders on Manipur. Area over 2000 sq. m. The chloric acid and corrusive sublimate C. valley is narrow with many long and C. chloride is preduced, whence C minor valleys from the Lushai hills. It produces tea for export, also rice true nature of C. and its derivatives and cotton, and sends timber to was discovered by Bunsen in a prolonged research about 1840. Cache (Fr., a hiding place) is a chemical action it acts like an elec-word used in Canada and the Western trically positive element, forming an United States for a hole dug in the inxide, chloride, iodide, and cyanide. earth to conceal food and other things An acid called cacodylic acid is formed when the oxide is acted upon by mercuric oxide, and the salts are sometimes used for skin diseases. C. eyanide 15 a colourless liquid obtained by distilling the oxido with mercury eyauidc. The operation must be verformed with extraordinary care in the open air, since the volatile vapour is among the most poismous substances known.

pnisoning), gonty and cancerous C. Cacongo, a small dist. nf Western Cachoeira ('a waterfall'), a city of Brazil, in the prov. of Behia, 60 m. Congo, between Kuilu and Chiloango. N.W. of Behia, on the R. Paraguassu. It now forms part of the Congo Free State and French Congn, and its

name has fallen into disuse.

Caetus (plural, Caeti), plants which with few exceptions are natives of Mexico, South America, and Cali-Mexico, South America, una fornia. The number of varieties of the fornia to the fornia C. approaches approximately to 1000 specimens. They are very curlous both in structure and growth. Ther are specially suited to desert wastes and dry arid hill-sides. They have thick juley stems which hold large quantities of water, and as only a very small part of the surface of the whole plant is exposed, in addition to which I nature, of pronounced it is empletely covered by a thick il character, written in 3-4 skin, transpiration and evaporation The dancer holds eastances, aroreduced to a minimum. Sumetimes and the dance, which is graceful and there is only the one thick cylindrical prickly stein, in other specimens the plant also bears fleshy leaf-like appendages, also covered with spines or prickles, and forming a very extralent to lord ir prince, borne by native ordinary looking member of the chiefs of Mexico, Peru, Hayti, Cuba, vegetable kluzdom. The water or juice of these plants is sometimes drawn off by the natives and some-times by eattle. Tho flowers of the C. are mostly years large and brilliantly coloured. There are about eighteen different genera of caefi, those most

these plants the soil should consist spherical in shape, three eye spots, of a mixture of fibrous loam, lime and few or no transversal veins. rubbish, broken bricks and sand. A good drainage is essential when in pots. March is the best time for potting, and the soil should be rather dry, and no water given for four days. They should be repotted at intervals of two or three years. During the winter they should be kept exceedingly dry, and only watered about once a fortnight, but in summer they be watered every four days. Caeti may be grown either from seed or by cuttings. The latter process is done by means of taking a cutting from an old plant with a sharp knife. and then placing it in a dry place till roots have spronted. The process of growing from seed is not a difficult one. The common prickly pear also belongs to this order.

Cacus, a son of Vulcan, the Roman god of fire, son of Juniter and Juno. was a notorious robber and giant. His home was in a cave on Mt. Avenine, where he stored the proceeds of his Having stolen and dragged into his cave some of the cattle which Hercules had carried away from Spain, he was killed by that hero. Herenles discovered the hiding-place by the lowing of the eattle within the cave in response to the lowing of the remainder of the herd as they were passing the entrance of the cave.

Cadamosto, Aivise Aloysda (1452-17), exploror, was born at Venice. In 1455 he undertook a voyage to the Canarles, and as far as the mouth of the Gambia. In 1456 he made a voyago to Senegambia. His account of his discoveries was published in 1507.

Caddenabbia, a beautiful health resort on the shores of Lake Como in Lombardy, Italy. It is surrounded by orange and citron groves. Its chief feature is the 'Villa Carlotta,' which contains valuable works of art by Canova and Thorwaldsen. Triumph of Alexander' (Thorwald-sen) is one of its priceless gems

Caddie, signifies a lad who attends a golfer at play in order to carry his clubs. In the 18th century it signified porter in a messenger or errand Edinburgh.

Caddis Flies, a family of insects allied to the dragon fly. The grub or larva is aquatic, feeding on water plants, and living enclosed in a sheath of sticks and gravel, held together by silk. This protection is necessary, as the body is long and soft and much sought after by fish. The adult is a four-winged, air-breathing in-set not unlike a dull colonred dragon fly with unifice a dull colonized dragon fly with a sucking probosis instead of jaws. Gairdner, 1880; Gairdner's Introduction of the interest of the interest of plants. Its duction to the Paston Letters, 1904; chief characteristic features are, a small head, compound eyes, hemi-

Adults are particularly active at night. Eggs are laid in gelatinous masses on plants, stones, or in water. Into these the larvee pass and surround themselves with a sheath composed of minute fragments of wood. grass, leaves, or shell, bound together by a spinning gland. Within these sheaths the larve are both sheltered and protected. After a while the larva moves its tube and spins silken blinds across the ends. The pupa metamorphis then begins, and at an advanced stage the pupe burst their prisons and swim or creep about for a while before undergoing the change into acrial life. Some float on the top in their cases and then take flight. They occur chiefly in Europe, and a large percentage of species may be found in Great Britain. Some of the most noted species in Britain are the Phryganea, Limnophilus, Bracily-centrus, Apatania, Mollamia, and Setodes. The larvæ are common in ponds and streams in spring, and are used as excellent built by unglers. The elass to which the C. F. belongs is known as neopterous class of insects.

Cade, John (d. 1450), rehel of Irish birth, noted as leader of the Kentlsh rising of 1450, called 'Jack Cade's Rebellion.' It is supposed that he was banished for murder, 1449, and then served in the French wars. He returned under the name of Aylmer. a physician. The most usual story is that C. was given out to be Mortimer. the Duke of York's eousin (for different view see Guirdner). When insurrection. C. issued a paper. Complaint of the Commons of Kent, objecting to the king's fuvourites, excessive taxation, and general misgovernment. They protested that free election of knights in their shire had been bindered and encounted on had been hindered, and encamped on Blackheath. Another paper, Requests by the Captain of the Great Assembly og de Capan by de Great Assembly in Kent, denianded the dismissal of certain ministers of Henry VI. The king's troops were defeated in a skirmish at Sevenoaks the rebels pressing on to London. C. had Baron Say and Crowmer, sheriff of Kent, beheaded. Then, retiring, he was repulsed at London Bridge. Terms of peace were arranged, but C. broke open the prisons, withdrawing to Rochester. At Queenborough he was repulsed, and quarrels over booty lost him supporters. C. was finally killed at Heathfield. See Three

of Towy. He captured the castle of tunity of showing his ability. Carmarthen in 1145. He went on a pligrimage to Rome (c. 1160), and on his return became a monk in the abbey of Strata Florida, where he died.

Cadell, Francis (1822-79), Austra-lian explorer, midshipman in East India Company's service, served in Chinese war of 1840-1, and hecame Wales. It is composed of basalt and captain of a vessel in 1844. He made porphryry with beds of slag and a special study of steamboat building. pumice. The highest peak is 2914 ft. In 1848 he examined mouth of Murray | Length 10 m., and breadth 2 m. R., and explored it and its tributaries

of Edinburgh, and hecame a partner in 1811. In 1826 he dissolved the partnership, and in 1827 secured the copyright of Sir Walter Scott's novels

grown it is about ? in. long. It feeds: on bread, almonds, and even rotten

200d.

Cadence (Lat. cadere), the 'fall' a fall in pitch. Cs. are like punctual tion marks in the language of music. They may give an effect of finality, conrt. In Turkey he is appointed by of mere pausing, or of questioning. The varieties are known as perfect, imperfect and interrupted. Aperfect of fixed salary. In Persia and Middle must have its final chord on the tonic. If the penultimate chord is on the subdominant, the C. is called 'plagal;' if on the dominant, 'authentie' Casiman. if on the dominant, 'authentie.' The former occurs chiefly in sacred the dept. of Gironde, situated on the music. The harmony of the imperfect R. Garonne, 16 m. S.E. of Bordcaux. C. is often that of the perfect re-Pop. 2783. versed, ending on a dominant chord Cadiz: 1. Prov. in Andalusia, preceded by the tonic (half close, in-Spain, formed 1833, including compreceded by the tonic (hait close, in-Spain, formed 1833, including comcomplete like a semicolon). If any increial centres such as Jercz, San except the tonic follows the chord Lucar, San Fernando. Chief exports, of the dominant, the effect is that of avoiding or postponing. This is known as avoided, deceptive, or interspan to the chord substituted for the expected tonic often gives a the most ancient cities of Enrope, charming effect. For examples leap, of above precy about 55 m frou

Cadency, see HERALDRY.

Cadenza, In music signifies ornamental flourish Introduced by soloist at the close of a piece or sectio

son of Gruffudd, whose rule extended of a piece. It is generally improvised, over part of Ceredigion and the valley and affords the executant an oppor-

> Cadereita, or Cadereyta, a tn. of Mexico in the county of Hidalgo and state of Queretaro, 42 m. E. of the town of that name. There are silver mines in the district. Pop. 4200.

> Cader Idris (Chair of Idris), a picturesque mountain in Merionethsbire.

Cadet (military) (from Fr. through in 1853.9. He became a squatter near [Lat. caput], signifies a youth studying the Darling R., and was afterwards for the army at one of the recognised tisb publisher, was born at Edin-hursh. He entered the house of in England are at Sandhurst and Archibald Constable & Co., publishers of Edinburgh, and become a Table Woolwich. The latter is a Co. destined for the engineers and artillery, and the former for other

branches of military service.

Naval cadet signifies the lowest and published several editions, thereby acquiring a small fortune.

Cadelle, a small coleopterous insect competition. Nomination is in the smaller found in granaries in hands of the Admiralty Board. There Britain. It is found chiefly in more is a two years' course on the training southerly countries and is dangerous; ship Britainia, after which they to stored corn and meal. When full-become midshipmen.

Cadi, or Kadi (Arabie, judge), title of an inferior judge among Mohammedan nations. Possesses civil and criminal jurisdiction, his powers inor close of a musical phrase or period cluding infliction of the capital (often applies both to melodic and as all Mohammedan law is based on

cobarming effect. For examples cap, of above prov., about 95 m, from consult any text-hook on harmony; Seville. Situated on a narrow tongue see also Gow's Structure of Music, of land in the Atlantic, it is one of the most important segments of the the most important scaports of the kingdom. Its position opens up with Europe and kingdom.

nmercial import. wing to decrease

and W. Indies. C. harbour is strongly fortified and divided into two parts. Ships go thence to Great Britain, Canary Is ands, W. Indies, France, Morocco, and S. America. The town is very picturesque, its white bulldings standing out against the blue sea. Its streets are well paved and lighted and very clean. There is a lighted and very clean. The fine promenade, and the Genoves with a summer Parque theatre. There are two cathedrals, one built in 1597, the other in the 18th century. Other noted buildings are an old Capuchin convent: a hospital: the church of Santa Catalinn, containing Mirillo's last work, 'Betrothal of St. Catharine;' Torre de Vigia (signal station); Académia de Bellas Artes. Among educational institutions it has a theological seminary, an archæological museum, and a faculty of medicine afilliated with the university of Seville. C. is the sec of a bishop, suffragan to Archbishop of Seville. The climate is rather hot and unhealthy, and the water-supply insufficient. Pop.ahont 70.000. Founded by Phænleians e. 1100 B.C. (Gadeira or Gades); captured in turn by Carthaginlans, Romans, Goths, Moors. The Christians took it, 1262; 1587 Drake destroyed its ships of war; 1596 sacked by English under Essex. Howard, and Raleigh; 1640 battle Cadiz, French under De Brézé gnlning n slight advantage; 1810-12 French invested C., but were forced to raise the siege; 1823 the Cortes to raise the siege; made a stand against the French, who held it till 1828; 1868 the revolution began here. See Seville y Cadiz in series Ferraga, by D da Madrazo, 1884 e Castro.

tro, Cadmium, a metallic chemical element discovered in 1817 by Stroymeyer in a sample of zinc oxide. It occurs as a constituent of most zinc ores and in the form of the sulphide in the mineral greenockite, found near Greenock in Scotland a

and Pennsylvania. In zine ores the vapours o'

an early stage, so that the metal can be extracted from the first portion of the condensed dist. C, is a tin-white metal and takes a good pollsh. When sublimated in a enrent of hydrogen it ferms octohedral crystals, and when sulphate

vacuum It melts

at 321.7°, has a boiling point of 778°, and a specific gravity of 8.6. Wood's inetal, which has a melting point of 60° contains C. in alloy with lead, tin, and hismuth. Cadmic oxide, CdO, is the 'brown blaze' of zine smelters, and is also found as a mineral. Cadmic

of communication with S. America: Indroxide, Cd(OH), is formed as a and W. Indies. C. harbour is strongly white precipitate on adding potasfortified and divided into two parts. Ships go thence to Great Britain, salt of C. Cadmic chloride is prepared Canary Is ands, W. Indies, France, by evaporating a solution of the metal Servery picturesque, its white bulledings standing out against the blue saa. Its streets are well paved and ighited and very clean. There is a can also be produced as a yellow prefine promenade, and the Parque epicate by passing Il-S into a cadmic Genoves with a summer theatre. There are two cathedrals one built in 1597, the other in the 18th century. Other noted buildings are an old Capuchin convent; a hospital; the leureh of Santa Catalinn, containing the cadmous salts have not been obtained Capuchin convent; a hospital; the

and beer. and Eure rried her off he was sent to bring her back, but failed. The oracle at Delphi bade him give up his quest, follow a cow he was to meet, and build a city where she lay down. He followed her from Phoeis to Bootia, becoming founder of Thebes, the acropolis being called the Cadmeia (Καδμέια). C. then slew a dragon, at Athene's command sowing the teeth, from which sprang armed men (eraprót, sown), who fought togother till only five romained, from whom the Thehans elaimed descent. C. married Harmonia, daughter of Aphrodite and Ares, and finally retired to Illyria as king. This story is compiled from

1867.
Cadmus of Miletus, perhaps the oldest of the logographi (λόγος-γράφω), a name applied now to Greek listoriographers before Herodotus. Unless a purely mythical person, he had about 550 B.C. A confused

in Suidas mentions three of name, two probably being

identical with the Phoenician C. (q.v.). The writer is supposed to have written a History of Ionia. See Miller, Fragmenta Historicorum Gracorum, 1841-70: Busott, Gricchische Geschichte, 1893: Bury, Incient Greck Historians, 1909 (deeture 1.).

Cadoc the Wise (Catting Ddoeth) (d. c. 570), a noted Welsh martyr, who founded the abbey and school of Liancarvan, in Glamorganshire. According to the account in Rees' Lives of Cambro-British Saints, he prayed for a martyr's death, and was stabbed while at mass by a soldier the next day. Certain old proverbs

and fables, Doethineb Catturg Ddoeth.!

Cadogan

Cadogan, George Henry, fifth Earl, was born at Durham in 1840. In 1873 he succeeded to the title on the death of his father. In May 1875 he was appointed Parliamentary Under-Secretary for War, and he was made became lord-lieutenant of Ireland, in which position he received Queen He retained this Victoria in 1900.

position till 1902. Cadogan, William, first Earl (1675-1726), a British general. It is thought that he took part as a boy enrnet at) the hattle of the Boyne in 1690. He

a quarter-

Cadogan's horse,' 1703-12. C. was that king. sent on a diplomatic mission to the Netherlands (1707-10); appointed lieutenant of the Tower, 1709-15; and governor of the Isle of Wight, 1716.
M.P. for Woodstock, 1705 and 1714, the rose to the rank of general in 1717, to the state of the table of the state of the rank of general in 1717, to the state of the table of the state of the table of the state of the sta and was created earl in 1718. Cadore, a Venetian vil. in Italy,

some 20 m. distant from Belluno, and

celebrated as the birthplace of Titian. Cadoudal, Georges (1771-1804), a distinguished leader of the Chouens, was born near Auray, Lower Brittany. He was among the first to take up nature. These worms inhabit warm arms against the republic, and countries and damp places, and burnequired great lufteence among the row like earthworms. It is 20 in, long, peasants. He was captured in 1784, with the thickness of a large worm, escaped and organised a wholly and is found in America, India, and peasant army, which could never be Africa. subdued. After a period of apparent the local compensation of the west to Paris with x. I: Ribbeck, Comicorum Romanthis design, but was captured and orum Franmenta, 1873; Teuflel, guillotined. His family was emobled Cacilius Statius, etc., 1858.

missioned officers, such s the pendix and in Round a condition as drummers, subalterns, etc. these the rest of the regiment may be gathered, as it were.

Caduceus, the name applied origi-Wisdom of Cadoe the Wise, and nally to an enclanter's wand, but Danmeyin Cattury Ddoeth, 'Fables' afterwards also applied to a herald's of Cadoe the Wise,' have been ascribed staff. Hermes, or Mercury, is nlways to him. form it had three shoots, one of which made the handle, the other two being entwined in each other.

Cadwalader, speit also Cædwalla (d. 634), King of Gwynedd, S. Wales. He invaded Northumbria in 629, and Under-Secretary of State for the was driven to Ireland by an Anglian Colonies in 1878. From 1886-92 he king, Eadwine. He defeated Eadwine was Lord Privy Seal, and in 1895 he at Hatfield and ravished Northumbria. He was defeated and slain near Hexham by Oswald, nephew of Eadwine.

Cadwgan (d. 1192), a Welsh prince, son of Bleddyn ap Cynyyn, king of Gwynedd. C. beat back the invasion of William Rufus in 1097, but was defeated by the Earl of Shrewsbury two years later at Anglesey. He paid homage to the earl, and helped him eat battles against Henry 1. in 1102. but wass colonel of ultimotely subdued and deposed by

- "(adzand. a vil. dland, 14 m. nonth of the Manny and the Earl of Derby defeated the Count

of Flanders in 1337.

Cadzow, see HAMILTON.

Cæcilla (Lat. cæcus, blind), a kind of serpent-like amphibian, of the order Apoda, about which little is known. It has a worm-like hody, without tail or limbs, with trans-versely furrowed skin of a sealy nature. These worms inhabit warm

Cæcilius Statius (d. c. 168 p.c.), a submission, he revolted again in popular Roman comic poet and dra-Brittany io 1799, and was compelled matist, born at Milan; a slave when to submit. Bonaparte recognised his young, he became a friend of Ennius ability, activity, and character, and He is mentioned by Cicero (De Oplimo annity, activity, and character, and the singulation of the content to solicit his services. General Properties of the Content of the Content

after the Restoration.
Cadoxton, a parish in S. Woles, co.
Glamorgan, 5 in. S.W. by S. of Cardiff. It is structed on the Barry Dock of junction of the smaller with the diff. It is situated on the Barry Dock of junction of the smaller with the and Tall Vale rallways. Pop. 8200. larger intestice. It is not connected Cadre (Fr., frame), military term which denotes the 'framework' of inversions milmals it is probably an old my regiment or corps. i.e. the permanent commissioned ond non-com
It is attached to the vermiform op-

Cædmon

English Christian poet, 'father of

English song.' The only trustworthy 7 m. from English Channel and 124 information about him is in Bede's m. by rail from Paris. C. is in the Ecclesiastical History, iv. He was a midst of a fertile plain; it has good servant at Whitby monastery, where streets, fine squares, and many noble consider the bade vision of a residence of a residence of the street of the squares of a residence of the squares of a residence of the squares of the s the future judgment and the horrors by the Huguenots, the Church also of hell-punishment, and the sweetness of the heavenly kingdom' (Bede).
C's Paraphrase, as described by
Bede, was thought to be embodied in an MS. of sacred epics, now in the La Trinité, and was buried in the preserved in an MS. of Bede's History now at Cambridge. For the text of the poems see Grein-Wülker, Bibliothek der angelsächsischen Pocsie, ii., 1894. See also Thorpe's translation, Cadmon, 1832. A memorial cross Cardmon, 1832. A memorial cross was erected at Whitby, 1898. Con-sult Bernhard Ten Brink, Early Bouterwek. Dissertatio de Cealmone, with the sea, and the railwny conPoeta, 1845: Longfellow, Poets and nections are good. Near by are
Poetry of Europe; Wright's Biothe celebrated subterranean stonegraphia Britannica Literaria.

quarries, from which comes the C.

Poetry of Europe; Wright's Biographia Britannica Literaria.

Cælius Aurelianns, an enninent
Latin physician and medical writer, sorn at Sieea in Africa, probably in the
stone, so largely used in England
Latin physician and medical writer, sorn at Sieea in Africa, probably in the
structure of the 'nethodic' school of medicine.

Stheentury A.D. He was an exponent
of the 'nethodic' school of medicine.

Stheentury A.D. He was an exponent
of the inethodic' school of medicine.

Schopers, De Morbis Chronicis
and De Morbis Acutis. There are
also fragments of his Medicinales
Responsiones, a general treatise on
medicine, in which his Gynaccia is
abridged from Soranus's Reje yearshoridged from Soranus's Reje yearture παθών (eds., Animan, 1709;
Haller, 1774; Rose, Aneedola Graca
et Latina, ii. 1870). His writings were
considered more practical than those irvined later by constant wars be
of any other medical authority of tween Weish and Angle-Normans.

antiquity. See Kuelu's Programma
Many Ronan antiquities have been antiquity. See Kuehn's Programma

Calum Scalptoris, the Sculptor's capitals of King Tool, a constellation of Lacsille. It Pop. about 1400. is situated bolow Columba Noachi and Canls Major, low enough not to

rise in this country.

Caen, a tn. of Normandy, France (Lat. Cadomum), cap. of dept. of Caer Calvados. Situated on R. Ornc. about SHIRE.

one night he had a vision, and a voice specimens of architecture. Near by bade him sing 'the origin of created is the 'Prairie' with its well-known things.' Thus sang he of the creation racecourse. St. Etienne Church was of the world, and the beginning of founded by William the Conqueror. the race of men, and ull the history of A monument there set up to him by Genesis . . . also of the terrors of William Rufus was destroyed in 1562 the future independent and the hospital by the Margaret the Column 1562

Hodician Library, Oxford (titles of choir of that church. St. Pierre, the poems being Genesis, Exodus, Daniel, most beautiful clurch in C., is in the Christ, and Satan), but the best chief street, Rue St. Jean. Among critics reject them, though they are other churches are St. Sauveur, St. possibly by later disciples. The theme Jean, St. Nicholas (now a cavalry anticipates that of Milton's great fodder-store). C. Castle, begun by spiles. The borns which C. was supopics. The hymn which C. was supthe Conqueror and fluished by Henry posed to have composed in his dream I. of England, was partly destroyed is in Northumbrian dialect, and is in 1793, now used as barracks. C. contains a fine of the contains and the contains a fine of the con tains a university, a museum, a fine public library, and many other public institutions. There are monuments to the natives of Calvados killed in 1870-1, and to the lawyer Demo-lombe; besides statues of Louis XIV., Auber, and Malherbe. There is a Auber, and Malherbe. There is a branch of the Bank of Franco here. English Lilerature (translated 1883; Among its chief manufs are lace, Morley, English Writers, vol. ii. 1888; crape, cotton-yarn, cutlery; it has Wilker's Grundriss zur Geschichte also breweries, shipbuilding yards, der angelsächsischen Lilteratur, 1885; and dyeworks. The famous Angora Stopford Brooke's English Litera rabrits are reared in the district, A ture to Norman Conquest, 1898; maritime ennal connects the port Boutervel. Disarrating de Cardon with the scale and the salters are

considered more practical than those remove Weish and Angio-Normaniof any other medical authority of tween Weish and Angio-Normaniof any other medical authority of tween Weish and Angio-Normaniof of the Weish and Angio-Normaniof of tween Weish and Angio-Normani

Caermarthen, see CARMARTHEN. Caermarthenshire, see CARMAR-THENSHIRE.

Caernarvon, see CARNARVON. Caernaryonshire, see CARNARYON- Caerphilly ('fort of the trench'), which can be brought to the contrary, eccles, parish and market tn. in there is little doubt now that C. Glamorganshire, Wales, 7½ m. from was born in the year 102, on July Cardiff. Station on L.N.W. railway. 12 of that year. Descended from a Large collieries and ironworks near. Manufs. linsey-woolscy, shirtings, blankets, checks, and shawls. Has ruins of Caerphilly Castle, once one of the largest strongholds in the

kingdom. Pop. (urban dist.) c. 16,000. Cæsalpinia is a tropical genus of Leguminose consisting of trees and shrubs, many of which are hookclimbers, and several being of com-C. pulcherrima, mercial value. Barbados pride, is cultivated for its boautiful flowers, as are C. sepiaria, Mysore thorn, which bears yellow flowers, and C. Joponica, which will flourish out of doors. C. Braziliensis yields Pernambueo or Brazil wood, valuable for the red dye it contains, while C. Sappan yields sappan-wood or Bukkum wood. C. Coriaria is known as the dividivi tree and C. Bonducella yields Bonduc seeds.

Cæsalpinus, Andreas (Latinised form of Andrea Cesalpino (1519-1603), Cæsalpinus, botauist and physiologist, born at Arezzo in Tuseany. He studied at Plsa and afterwards became a professor there, where he had charge of the both

work was 1583 under

Libri XVI. This work commenced a new era in systematic botanical

research.

Cæsar, the title usually borne by the Roman emperors and by the heirapparent to the imperial throne. was in its origin the name of the patrician family of the Julia gens. This family was one of the oldest families in Rome, and bad a long and proud descent, claiming lineage with the son of Æneas, the founder of the city. By Augustus it was adopted, since he was the adopted son of the great Julius Cresar, and by him it was passed on to his adopted son Tiberius. It was borne by successive emperors even after the direct line of the Julian family had become extinct. It represented the second title of the emperors, who still of course bore the title Augustus. By the heir of Adrian it was adopted as the title of the heirapparent, and was borne by the heirs of the emperors throughout the sne-ceeding ages; the name Augustus still continued to be tho title of the emperors. The name, or derivatives of the name, is still used, e.g. the Kaiser, the Tsar of all the Russias, and in the title Kaisar-1-Hind (the Emperor of India), which title is now berne by our own sovereigns.

patrician family, members of which had long been identified with tho senatorial party, C. himself from the very beginning of his political career identified himself with the demoeratic party. This was, no doubt, due to his connection by marriage with the famous C. Marins, who was the husband of C.'s aunt, and who had taken a special interest in the boy who had been born in the year of



GAIUS JULIUS CÆSAR

Marius' great victory. His early political career was highly dangerous. and at a very early age he incurred the anger of the great Sulla by his marrlage to the daughter of Cinna. On Sulla's return he was degraded from his position of priest of Jupiter, and doprived of his property, but his life was spared owing to the influence of his aristocratic relations and the pleadings of the college of vestal virgins. At this period he deemed it wise to leave Italy, and he saw his first military service in Asia (81 n.c.). Three years later we find him back again in Rome, the news of the death Cæsar, Gaius Julius (102-44 B.c.), of Sulla having recalled hlm. In the greatest of Roman soldiers and Rome there was a great democratic statesmen. In spite of the ovidence reaction on the death of Sulla, and

order to study rhetoric. He took part of land to Pompey's dista in the third Mithridatic War, and veterans, and he reconciled in 74 was elected a pontifex on the death of his uncle, C. Aurelius Cotta. He almost immediately became noted as one of the democratic leaders, and took a leading part in the events which led to the sweeping away of the safeguard to senatorial rights and the partial restoration, at any rate, of the popular liberties, period of office he caused legislation Gradually he was becoming more to be passed which gove him the and more friendly with Pompey. In command of Cisalpino Goul and and more friendly with Ponipcy. In 69 he served in Spain as a quastor, and in the following year returned to Rome. The departure of Pompoy for the East marks the real beginning of the career which was ultimately to lead C. to the dictatorship of Rome. From this time forward he is always to be found advocating the principles of the democratic party. During this period of his life, however, he was principally noted in Romo for the number and variety of his amours, for his extravagance, and for his life of pleasure. He was, perhaps, not regarded seriously as a coming states man, since it appeared to be eimost impossible that a man of pleasure such as C. should uitimately become the master of the Roman empire. His extravagance and the licentiousness of his life are two traits which are choracteristic of the man, and which ore to be found without much secking during every part of his career. In 65 B.c. he was elected curule tedile, and two years later he hecame pontifex maximus. the same year (63 B.C.) the Catiline conspirators were accused by the consul Cicero. The name of C. was freely mentioned as one of the conspirators, and in fact the senatorial party tried hard to get his name included in the list. However much C., or his friend Crassus, knew of the plot, there is no doubt but that they were hoth opposed to it, although they were probably bound to have known of its existence. In 62 Pompey returned from the East to find himself in opposition to the senate, who the Sambre, and in this way gained had opposed many of his propositions, for the Roman republic dominion over and in alliance with C., whose opposition to the senote made him natural aliv. In the next year C. went to the province of Further Spaln, and remained there until the following year (60), when he returned out into revolt, and this, after some to Rome.

although C. refused to identify himself with the party of Lepidus, he In the same year (60) he became
showed his activo democratic sympathies by prosecuting two of the
Sullan governors for oxtortion in their
provinces. Both prosecutions failed,
Triumvirate. He ratified the acts
and C. retired for a while to Rhodes in of Pompey in the East, he gave grants
of land to Pompey he distanced land to Pompey's disbanded capitalists as well. He, however, clearly foresaw that his importance as a power in the Roman republic must be strengthened by military force, and that it was necessary to obtain for himself the command of o province where he could train the legions to follow him. During his command of Cisalpino Goul and Illyria, ond the overawed senate added olso the command of Transalpine Gaul, in order that this province should not be given him by the populor party. The next nine years of C.'s life are taken up with his famous campaigns, campoigns from which he was to issue as the dictator of Rome, the founder of the Roman empire, and the hero of a Roman populace. Before setting out from Rome he realised that the time had arrived when it was necessary that Rome should crush the amhitions of the German tribes, or herself fall beneath them. Aiready the Germans had shown that they intended to contest with Rome the possession of Gaul; the Ædui hod been defeated, the Sequeni moiested; it was high time that the Romans appeared to defend these ollied tribes. The first victory of C. was over the Helvetii. The first who were driven by the incoming Germans from Switzerland. They demanded a passage through Roman territory and were refused. Forced by C. to march down the right bank of the Rhone, they succeeded, while C. was intrying back for reinforcements, in crossing the river Saone, only to be defeated, erushed, and driven back to their original homes. He next succeeded in defeating the Germans under Ariovistus, and followed this blow up by defeating the Belga, whose fears had been aroused by the success of C. He then marched against the neighbouring tribe, the Nervii, and defeated them at a bloody battle in the Sambre, and in this woy gained istily ider-

. oken little difficulty, he was successful in On his return to Rome C. en-performing. In the meantime another deavoured successfully to reconcile of his officers had subdued the Aquitani of the S.W., so that by the and wife of Pompey, had died, Crassus end of the year the whole of Gaul lay had died in the same year. Pompey was little more than exploratory, and C. place to Britain, and on this occasion ever, was able to cause luin consider-

not terminate until 49 B.C. by the difference of the first terminal terminal

end of the year the whole of Gaul lay had died in the same year. Pompey subject to Rome. In 50 B.c. had one longer felt either bound or inclined attacked and destroyed two of the German tribes who had crossed the lower Rhiue, and ou this occasion built the famous bridge across the triver in ten days. In the same year that party. The agreement made his first expedition to Britain, actuated probably by the fact that the tribes of Northern Gaul received assistance from their kines. received assistance from their kins to be broken. In order to strengthen meu in Britain. This first expedition Pompey it was necessary to weaken Arrangements were made by accomplished nothing. The Britons means of which C.'s successor should of the S. coast were reduced to a be appointed by 49, so that C. for nominal cassalage, but this had some time would be able to be per-practically no effect. In the follow secuted. Negotiations were opened ing year another expedition took between the two leaders. C. came juto residence on the borders of Italy C. stayed longer and accomplished proper, so that he could the more more. He penetrated Middlesex and easily obtain information of what was crossed the Thames into Esex. He happening in the Roman senate. This defeated Cassicelaunus, who, how-information came chiefly through a senator whom he had bribed. C. was able trouble. He huposed a tribute called upon to resign his command, on the Britons before he finally left and martial law was proclaimed. The that country to wait for another cen-that country to wait for another cen-tury before the hand of Rome would Cassius, fled to C. The senatorial be stretched out to add them to the party led by Pompey were now face empire. In the meantime C's term to face with their greatest enemy, C. of office had been lengthened, and the C. immediately took measures to outof office had been lengthened, and the [C. inunediately took measures to out-Trium virate had agreed that it should | manœuvre his enemies. Pompey had the command of many more legions. The campaigns of the year 53 and but the legions were scattered. C. 52 were of that importance. During therefore crossed the Rubicon and this period the Germans made their marched against Pourpey, who with last great struggle for independence, drew his men from Italy and took C.'s legions suffered a reverse in Gaul., them eastward, where his name was a reverse which was speedily and greatest, and where his great rietories heavily paid for by the practical had been won. C. had reached annihilation of the Eburones. The Brindisi before Pompey and his army following year saw the final attempt; had embarked, but had been unable under the great leader Vercingetorix; to prevent the embarkation. He now who at the head of the Arverdi role in turned his attention to Spain, which who at the head of the Arverm role in surned his attention to spain, which revolt. Successful at first in driving the reached in June and had reduced away the German chieftain, C. by August. In that month, he resuffered a severe check at Gergovia, turned to Rome and was made where he was obliged to raise the dictator, a post which he only occusiege. However, at Alesia he besieved pied for cleven days. He was elected the successful leader, and forced him consul for 48, and then set out for the successful leader, and forego man consul for 48, and then set out for to surrender in spite of the attempts. Greece to attack the army of Pompey, made to release him. Having configured Gaul, C. could afford to be army of Pompey at Dyrrhaehium lenient, and he therefore imposed no hard tasks upon the defeated tribes; he allowed them to retain their reinforcements marched down into the religion of the spite of the sp customs and manners, imposed a the plains of Thesely, and a battle fixed tribute, and made Ganl into a was fought at Pharsalia, where

three leaders for some considerable did not immediately return from time. But in 54 s.c. the ties that bound C. and Pompey had been some months, fascinated, it is said, by the what loosened. Julia, daughter of C. charms of Cleopatra, for whose sake

turned to Romo. Here he first put down a mutiny of the legions, and then crossed over to Africa, in order to crush the last mentlers of the Pompeian party. In the great victory at Thapsus he practically annihilated the leaders of the party, and one of the generals, Cato, committed suicide. In the same year he was made dictator for ten years, and towards the end of the year sailed for Spain, to put down the sons of Pompey, who still held out there. The battle of Munda in the following year crushed that rebellion, and C. returned to his age. See Life by Froude. Rome. On the 15th of March, 44 B.c., Cæsar, Sir Charles (1590-1642), a he was murdered in the senate-house at the foot of the statue to Pompey. During the period that he had held the dictatorship, he had exercised his authority on the whole for the good of the people. He had not had recourse to any of the atrocious masseres of Marius or Sulla. When his entenies lay crushed at his feet, he had been noble enough to raise them to a position of equality with his supporters. He had put forward many schemes which were obviously for the well-heing of the republic. Ho reformed the calendar, ho proposed to make a digest of the Roman law. He enfranchised the Transpadanes. He put forward schemes for the draining of the Pontino Marshes, for the colargement of the harbour of wrote a treatise on the Privy Council, Ostia, and for the construction of a canal through the isthmus of Corinth. He was distinguished in every way; he was a great state-man, soldier, and orator. In addition he can claim a place in history as a brilliant mathematicium, a jurist, and an architect, together with a very high position indeed as a writer and historian. His character as a man and as a statesman has led to much discussion. On the one hand, we find many historians holding the view that the creation of a policy, for want of a better name known as Ciesarian, was very necessary, that the tradition and method of government applied to the town Rome could not be equally applied to the Roman empire. the other hand, we find the view held by many that C., in overthrowing the constitution and traditions of Rome, destroyed liberty, and this view has much to be said for it. The open and obvious contempt with which C. re-garded the traditions of Rome cannot be passed over easily. Not that ho attempted to destroy, but that by the

he embarked on the Alexandrine War, a war which he brought to a success to the senate, he held up to open conful issue in 47. In the same year he tempt the greatest of Ruman ideals, overeame tho son of Mithridates, a Throughout the ages the name of the victory which C. commemorated in pagan C. has been held up to adthe phrase, 'I came, I saw, I conquered.' After this victory he required.' After this victory he returned to Rumo. Here he first put C. and Casarism which apount to C. and Casarism which amount to hero worship. The greatest name to them to the pages of history was that of the founder of the Roman empire. But with the Renaissance came a change in thought, C. no looger was regarded as the founder of an empire. but as the destroyer of liberty, and the names of the conspirators who overthrew him were held up to admiration. In this diversity of opinion it is impossible truly to appreciate his work and character without reference to the political ethics and manners of

> British judgo, was educated at All Sont's, Oxford, and entered the Inner Templo in 1611. He was appointed master of chancery, 1613-39, and indge of the court of undience, c. 1626-42. He paid James I. £15,000 for the

> The pain almost 1. 213,000 for the mastership of the rolls in 1639.
>
> Cæsar, Sir Julius (1558-1636), an English lawyer, noted for his great generosity, was the son of Cosure Adelmare, physician to Queen Mary, and a descendant of the Italian dukes de' Cearini. He was called to the bar in 1580; hecamo judge of the Admiralty Court, 1584; Chancellor of the Exchequer, 1696; Master of the Rolls, 1614. He was a friend of Whiteift and of Baron, and had a high reputation for integrity. He and other papers.

Cæsarea: 1. Anct. name of Kaisârich, a coast vil. of Pulestine, 27 m. from Nazareth, 30 m. from Jerusalem. Founded by Herod the Great, a very important city often mentioned in the Bible. The ruins are surrounded by a low grey stone wall. Coasting vessels often put in as water is good and abundant, colonists now have a settlement there. 2. Cæsarea Philippi, now Banias (Paness), vil. of Palestine, near R. Jordon below Mt. Hermon, 29 m. from Damasens. Founded by Philip the Tetrarch, Promiocut in time of the Crusades. 3. Anet. name of Chereliel, a scaport to. of Algeria, 55 m. from Algiers. Ruins are still left. The port is shallow and exposed to N. winds. Near by arc large marble quarries, and mines of silver, iron, and lignite. Pop. about 4000 (com. 8000).

Anet. name of Jersey. Casarean Operation, liberating a child from the womb by cutting through the walls of the abdomen and

The name is derived from | kola nut. It may be procured from a this manner.

Cæsarion (47-30 B.c.), son of Cleopatra, who declared that Julius Cæsar was his father. Though this has been denied, it is said that Antony once said in the senate that Cresar had later he was put to death by order

Cæsium, a metallic chemical element usually associated with rubi-dium. It was the first metal discovered by spectrum analysis, and

veretable life.

of Angustus.

mentioned treatise.

Cæsura (a 'cutting'), a metrical rest or pause usually about the middle of a line, not necessarily coineiding with a grammatical stop. The word has been taken from the classics,

and is most con Moverse after the or agare than one (

or agase than one.

Syllabiletin verses shorter than the deca-twhere he was five times imprisoned
of usages need have none. A variety for a line of the control of the cont syllabledin verses shorter than the decaof usage a need have none. A variety
In Greek a produces the lest results.
Sest and mand Latin hexameters the
fifth halvost frequent C. is after
the same is a foot (penthemimeral);
meter line of Vso used in the pentavariations may Lelegiacs. Of course
Die Metrik der Green. See Müller,
Café, see Coffer, 'techen und Römer,
Café, see Coffer, 'techen und Römer,
Caffa, see Kaffa.' Harver

Caffa, see KAFTA.?

Caffeic Houses.

Caffeine, Caffeic (C.H. N.O.) is a vere the xanthine stoom stable alkaloid of in beverages in commit. Its occurrence study important. This. Its occurrence ambassadors. The term caftan is as theine, which exist on use makes its as theine, which exist on use makes its as theine, which exist on use the same to the extent of 3.2 pd sts in tea-leaves 1.5 per cent. in Paragist in tea-leaves 1.5 per cent. in Paragist in tea-leaves and beverages conclusive entry in coffee and beverages conclusive entry in the property of the Philippines. It is extremely fertile, and rice (the staple food).

that of Julins Cæsar, who is said to strong infusion of tea in the following have been brought into the world in manner: The tannin is precipitated by means of lead acetate, the excess of which is precipitated by passing through it sulphuretted hydrogen. On filtration the liquid is evaporated down and neutralised with caustic potash, when on cooling the caffeine acknowledged the relationship. In will crystallise out. The crystals are 34 B.c. he received from Antony the colourless, long, and silky, with one title of king of kings, but four years molecule of water of crystallisation. They are only slightly soluble in cold water, but very much in hot water or alcohol and in chloroform. The salts are decomposed by water, but the citrate, produced by adding caffeine to a hot solution of citric acid and covered by spectrum analysis, and to a not conduct of each action has since been found in the mineral evaporating, is widely used, having waters of Frankhausen and Wheal Clifford. It is a silver white metal, feine is a product of xanthine, and inflames in air when heated, melts at they are both products in the heat26°, hoils at 670°, has a specific gravity of 1°25, and is poisonous to plants, the final product being uric regetable life.

Casius Bassus, Roman lyrie poet of Nero's reign; friend of Persius, is no danger to be feared from it whose works he edited, and whose is no danger to be feared from it whose works he edited, and whose is no danger to be feared from it whose works he edited, and whose is no danger to be feared from it whose works he edited, and whose is no danger to be feared from it whose works he edited, and whose is no danger to be feared from it whose works have people with gouty predilections. Caffeine is primarily a stimulant. It stimulates the reasoning powers as his life in the eruption of Vesuvius, a.d. 7.9 pairse well as others and prevents electually like alcohol, its action is not followed by a sedative effect, and hence the property of the human body uric acid is composite to be prevent is no the property as the property of the human body uric acid is not produced by people with gouty predilections. Caffeine is primarily a stimulant. It stimulates the reasoning powers as the life alcohol, its action is not followed by a sedative effect, and hence it may be termed a true stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulant. In medicine it is used as a licart stimulan acid. In the human body urie acid is monoclinie crystals.

Califraria, see KAFFIRS. Califres, see KAFFIRS. Califistan, see KAFIRISTAN

Caffyn, Matthew (1628-1714), an Armenian baptist minister. He was om Oxford University for

and became minister at

Turks. It is usually made of woolles or silk material, and is white it Calleine, Calleine (C₁H₁₀N₁O₂) is a verge (C₂H₁₀N₁O₂) is a verge (C₂H₁₀N

sugar cane, cotton, coffec, and cinna-confinement. The most universal mon are grown. C. is also the name remedy is a drop of castor oil, adoing the largest river of the Island. ministered with a quill or a camel-Pop. of district is about 90,000.

Cage-birds. From the earliest times birds that are notable for their plumage, their song, or their interestlng ways, have been kept in confinement as pets. The favourites among the songsters are the nightingale, blackcap, thrush, blackbird, skylark, woodlark, and starling; while the linnet, goldfinch, hullfinch, siskin, and canary are also popular. The last-named is one of the commonest C. in this country, and, though really a foreign bird, has become thoroughly acclimatised. Sisking and redpolls, and also linnets and goldfinches, have been made to draw their water and food in miniature buckets from wells heneath their hucket-board. Birds have also had their eyes bleared with a hot iron to make them sing better. Needless to say, them sing better. Needless to say, both these practices have heen regarded as exceedingly eruel by all right-minded people. Of other British birds, the common jay and the jackdaw are often kept as C. for the sako of their entertaining ways and their powers of mimicry. There is a considerable trade in the importation of foreign C. into this country, and it has been estimated that no less than 50.000 of these are imported every year. They are more sought after for the sake of their plumage than of their song, though the canary, shama, American mocking-bird, Virginian nightingale, Peking nightingale, hul-bul, and bluebird, are all good songsters. Parrots are much in request as C., and parroquets and cockatoos are also kept, though the latter are somewhat noisy for the house. Of the parrots, the yellow-faced Amazon is the best talker. The acclimatised at all easily; of the two species, that from W. Africa is the hardier. Carc has to be taken in the feeding of C. The soft-hilled The soft-hilled songsters, such as the thrush and tho lark, should be fed on crushed hemp, bread-crumhs, and insects, and a spider is one of the best of tonics for The nightingale requires them. special attention, heing difficult to feed and rear properly. Some hirds, such as the finches, linnets, and canaries, eat grain only, while others, such as starlings, redhreasts, and wrens, feed on insects only. Canary seed and rape-seed are chicfly used for the grain-eating hirds, and canary seed is the best food for all species of parrots. The aliments of C. are mostly due to excessive or otherwise improper feeding, combined with their lack of exercise in

confinement. The most universal remedy is a drop of castor oil, administered with a quill or a camelbair brush. Birds are more sensitive to draughts than human heings, and should never he placed in a window for that reason. Nor should they he kept in conservatories, or other places where the temperature is variable. Birds kept under bad conditions in this respect are always in had health, and pulmonary tronhles sometimes result. Epilepsy, due to overfeeding, constipation, and diarrhea are also common complaints. Especial care is necessary when the hirds are moulting. A rusty nail in the drinking water is then a good thing at such times, and stimulating food should he given.

food should be given.

Cages have frequently heen used in the past for the Imprisonment of human victime. The philosopher Callisthenes was kept in an iron C. for seven months hy Alexander the Great for refusing to pay him divine honours. Catherino II. of Russia imprisoned her wig-dresser for three years in an iron C. lest people should know that she wore a wig. Edward I. confined the Countess of Buchan and a sister of Robert Bruce in a similar way. The former, whose offence was placing the crown of Scotland on the head of Bruce, was placed in an Iron C. on one of the towers of Berwick Castle. Similarly, Tamerlane made a public show of the Ottoman sultan, Balue, grand-almoner of France, in an iron C. in the Castle of Loches for cleven years. The bodies of the Anabaptist leaders, John of Leydeu, Knipperdolling, and Krechting, were exposed in iron C. at Münster, Westplalia, in 1536.

Cagliari (anet. Carales) Is hoth the cap. of the prov. of Cagliari and of the whole island of Sardinia. Distant 375 m. S. of Genoa by water, its fine harhour is sitnated in the centre of the sonthern coast of Sardinia, at the head of the Gulf of C. The course of its history Is chequered. At first a Roman colony, It has been successively occupied by the Vandals (485 A.D.), Justinian (533 A.D.), the Saracens (12th century), the Pisans, the kings of Aragon (1326-1714), Austria, and the Duke of Savoy, who hecame King of Sardinia (nntil 1861). Whilst the medieval town ran along the topmost ridges of a hill running N. and S., the modern town has grown up on the lower slopes and along the coast. Strong hreezes blow through the town in winter, hat in summor the climate is African. The chief exports, whose annual value is £1,500,000 sterling, are zinc, lead, and salt (obtained from a lagoon to the E.).

harracks, and archæologicai museum—the best in Sardinia—there are many huildings of great historic interest, including a domed courch of the 8th century, the cathedral (huilt hy the Pisans in 1257-1312), two great towers of the mediæval fortificasplendid prospect, and a university (dating from 1764). The pop. of the commune in 1900 was 53,057.

Paolo, see VERONESE

PAOLO. Cagliostro, Alexander, an arch - impostor whose real of his victous propensities during his in 1910 hy Trowhridge. education at the monastery of Caltagirone, where he horrified the monks
hy narrating the adventures of Immoral women. Expelled from the
splendid trimmphal Arco della Pace,
monastery, he hegan hy forging a will
of white marhle. Like Palladio, his
and committing a murder. For this predecessor, he strove to implicate the
letter crime he was imprisoned. On simple arrandom of classical architectures. his release he inveigled a goldsmith, Marono, into paying away his money to discover a fictitions treasure. When Marono reached the treasure cave he was set on hy six ruffians, hirelines of Balsamo, who heat him hirelings of Balsamo, who heat him into insensibility. Dreading vengeance Balsamo went ahroad, travelling, it is said, in Greece, Egypt, Arahla, Persia, Rhodes, and Rome. In Romc he met and married a heautiful girl, had acquired a smattering of chemisand a half old, and his wife, who was and in the churches they an imaginary son who was a veteran in worshippers. They were not oven Dutch naval officer. The credulity is allowed to walk on the high road and multiplicity of his dupes seem in with bare feet. There is no cyidence to be so expected lays truly remarkable, but the upper classes, from whom his rictims were drawn, were at that rictims were drawn, were at that time ill educated, superstitious, and sensual. Thus they trusted him sensual. Thus they trusted him equally as the inventor of an 'in-valuable pentagon for abolishing 'Caher, or Cahir, a tn. with trade

N. of the western lagoon, where there original sin, or the preacher of a is a good fishing trade, stretches miraculous moral regeneration, or as a fertile plain, which is, however, still an Egyptian freemason who could cultivated in a very primitive fashion. There is a tramway to Quarto S. as an advocate of attrains and so There is a tramway to Quarto S. as an advocate of altruism and a Elena, and two railways, including the practical philanthropist. But his main northern line, have their terquackeries were one hy one exposed. mini in C. Besides the modern cita- The Scottish physician to Catherine, at St. Petershurg, pronounced his cele-hrated 'Spagiric food' unfit for dogs; in Paris he was deeply involved in the affair of the diamond necklace and thrown into the Bastille; in England lawyers succeeded in confining him to the Fleet. Finally, after further tions, one of which commands a degradations and compulsory wan-splendid prospect, and a university derings, this 'bull-necked forger' underwent a sectence of perpetual imprisonment at Rome for freemasoory. He died in the fortress prison of San Leone, whilst his wife count de found refuge in a convent. An oppostor of lent account of this prince of charla-Palermo, whose real name was tans will be found in Carlyle's Mis-Giuseppe Balsamo, gave a foretaste cellanies. A work on C. was published

latter crime he was imprisoned. On simple grandeur of classical architecture, as may be seen in his Porta di Marengo and his chapel of St. Mar-

cellina, also at Milan.

Cagots, the name of a distinct and formerly outcast people living in the Basque provinces of the Western Pyrenees. The name is also applied to similar peoples in Béarn, Gascony, and Brittany. The origin of the C Some have declared is uncertain. them to be descended from the Visi-Lorenza Feliciani, who proved an goths, who remained in France after astute confederate in her husband's their defeat at Clovis in the 5th trickeries. At the monastery Balsamo | century. Their name is explained as a corruption of canis gothus (' Gothic try and medicine, and later in Rhodes dog '). Others have held them to he had proved a ready pupil to the descended from the Saracens confereek, Althotas, in the mysterious quered by Charles Martel. Most art of alchemy. Thus he is next found eredence is now given to the helief and Germany, posing alternately as of their leprosy, and lave since thrown necromancer, physician, and free off the disease. It appears that they mason. At Strasburg be grew rich were formerly compelled to wear a with the profits of his 'elixir of impeculiar dress, and to follow certain mortal youth.' The count would menial occupations. They were forced solemnly declare he was a century to enter the churches by special doors, only twenty, would lovingly refer to separated by a rail from the other an imaginary son who was a veteran worshippers. They were not oven They were not oven

in corn and flour, in co. Tipperary, the Order of the Legion of Honour Ireland, 11 m. W. of Clonmel, beantiand a pension. He published an fully situated on the R. Suir, at the account of the journey, edited by foot of the Galtee mountains. C. M. Jomard.

Castle stands on a rocky island in Cailliaud, Frédéric (1787-1869), a

bridge. Pop. (1906) 10,047.

Caibarien, or Puerto de Caibarien, a tn. and seaport situated on the N. coast of Cuba, West Indies, 5 m. from Remedios. It possesses a good harhour, and railway communication with Espiritu Santo and Remedios. Pop. 8000.

of songs.

Catcos, or Cayos, or The Keys, a group of islands lying to the S. of the Bahamas, W. Indies, hnt placed under the government of Jamaica in 1874. The group consists of eight islands and several uninhabited rocks numbering about thirty in all. Great Key, tho largest island, is about 30 m. long, and is the seat of government. The Inhabited Islands are wooded and fairly fertile, but the climate is enervating. The chief industries are the exportation of salt. sponges, and turtle-shell, the cultiva-tion of sisal hemp (on West C.), and

tion of sisal hemp (on West C.), and fishing. The total area (including that of Turk's Is.) is 223 sq. m. Pop. 5350. Caillard, Sir Vincent Henry Penalver, b. 1856, was educated at Eton and R.M.A., Woolwich. Received commission in Royal Engineers in 1875. Held many appointments of distinction in foreign service. Received medal and hronze star in Egyptian campalgn, 1882. Director of London. Chatham. and Dover Railof London, Chatham, and Dover Railway. Publications on imperial, fiscal reform, and economic questions; also author of short storics and composer

Caillé (or Caillié), Rene (1799-1839), French traveller, was horn at Mauzé in Poiton, the son of a baker. Having gono to Senegal while still a youth, he Icarned in 1826 that the Paris Geographical Society had offered 10,000 francs to the first traveller who should reach Timbuctoo. Attired in Moorish dress, he set ont from

Cashers Bands on a roley island in the river. Pop. 2500.

Cahors, the cap. of the dept. of Lot in South-western France, on the rall-way between Limoges and Toniouse, the mineral resources of Egypt, and, which lies 70 m. to the N. It has a in so doing, located the site of the trade in nnts, wine, and tohaceo, and ancient emerald mines of Jehel tanning and wool-spinning industries Zahara. He made important dishesides manufactures of farm imple-coveries in Siwah, his report thereon ments. Its importance rests largely leading to its annexation hy Egypt on its antiquities, which include the athedral of St. Etienne (12th century), the Maison d'Henri IV. (15th Nile, in company with Ihrahim century), and the Pont Valentré over the Lot, a fine fortified 14th-century the results in his Voyage à Méroé au Ericuse. Plant (1862) Fleuve Blanc (1826). He published other works of travel, and died at Nantes.

Caillin, also Kaillin, an Irish saint. around whose name many legends have clustered. He probably lived in the second half of the 6th century. Of a peaceable nature. The Ancient Book of Fenagh (ahout 1400) furnishes the materials of St. C.'s life. C. procured a country for his kinsmen, the Commaioni, to live in. He converted Prince Ædhdnbh, who gave him the fortress of Dunhaile, or Fenagh, in which to build his monastery.

Calman, or Cayman, the given to several species of alligator found in Central and S. America. The C. differs in some points from the alligator of China and also of N. America, hnt only in minor details. Except for one Chinese specimen, the alligator is peculiar to America.

Cain, the first-born of Adam and Eve, who slew his hrother Abel, hecanse Abel's sacrifice was accepted and his was not. A curse was pro-nounced upon him for this deed, and he went to live in the land of Nod. A enrse was pronounced on any one who should kill him, hut there was a tradition that he was slain accidentally. A sect of the Ophite gnostics (A.D. 130) were called Cainites, as they held peculiar views of the significance of Cain and Ahel as types.

Caine, Thomas Henry Hall (b. 1853), novelist, was horn at Runcorn, Cheshire, and was educated in the Isle of Man and at Liverpool. After studying as an architect, he hecame leader writer on the Liverpool Mer-cury, and gradually took up literary work. He went to London on the invitation of D. G. Rossetti, and wrote for the Athenæum, the and other periodicals. Academy, na noorisin cress, he set ont from Academy, and other periodicals. Kakondy in Sierra Leone on April After publishing Recollections of 18, 1827, and reached Timhnetoo on April 20, 1828, proceeding thence Centuries, 1882; and Cobwebs of across the Sahara to Tangier. He Criticism, 1883, he hegan a success-received the 10,000 francs, and also ful career as a novelist with The

Shadow of a Crime, 1885. His snbsegnent novels bave included: A Son sequent novels bare included: A Son of Hagar, 1886; The Deemster, 1887; The Bondman, 1890; The Scapegoat, 1891; Capt'n Davy's Honeymoon, 1892; The Manxman, 1894; The Christian, 1898; The Elernal City, 1901; The Prodigal Son, 1904; and The White Prophet, 1909. The Deemster was dramatised as Ben-my-Chree in 1889 The Manxman in 1890. Chree in 1889, The Manxman in 1895 The Christian in 1898, The Eternal City in 1902, and The Prodigal Son in 1905. A dramatic work, Mahomet, was withheld from the stage at the request of the Turkish ambassador. The Bishop's Son (1910) and The Eternal Question (1910) have also heen put upon the stage. 'Hall C.' was elected to the Manx House of Keys in 1901.

Ça ira (' It will go on '), a popular song of the French Revolution, so

named from its refrain:

Oh: Ça ira, Ça ira, Ça ira. Les aristocrates à la lanterne.

The words, by Ladré, a street singer,

The words, by Ladré, a street singer, were put to an older air, Le Carillon National. The song was prohibited by the Directory in 1797.

Caird, Edward (1835-1908), British theologian and philosopher, brother of John C., was born at Greenock, and was educated at Glasgow University and Balliol College, Oxford. After a brilliant course at the latter university, be was, from 1864-66, fellow and tutor of Merton College. In 1866 bo returned to Glasgow and became professor of moral philosophy, and, in fessor of moral philosophy, and, in 1893, be became master of Balliol. In 1892 be bad received the honorary degree of D.C.L. Through his pupils he has exercised a great influence on English philosophy, and may be considered to have founded a school of neo-Hegelianism. His works includo: Critical Philosophy of Kant, 1889; Religion and Social Philosophy of Comte, 1885; Evolution of Religion, 1893: Evolution of Theology in the 1893; Evolution of Theology in the Greek Philosophers, 1904. Caird, Sir James (1816-92), Scottlsh agriculturist, was horn at Stranraer,

Wigtownshire, and for some years engaged in farming in his native county. He came into prominence in the Free Trade controversy, publishing High Farming as the Best Substitute for Protection in 1849. Ho sat in parliament as a Liberal (1857-65), and in 1864 he induced the government to collect and publish all agri-cultural statistics of the country. He was chairman of a Royal Commission on Sca Fisheries (1863-6), and later director of the Land Department of the Board of Agriculture (1889-91), and was president of the Statistical

Society in 1880-81.

Caird, John (1820-98), a Scottish divine, was horn at Greenoek, and entered the ministry of the Church of Scotland in 1845. He preached a notable sermon before the queen at Crathie in 1855, afterwards published under the title The Religion of Common Life. In 1862 he was appointed professor of theology at Glasgow University, becoming vice-chancellor and principal in 1873. He dolivered the Gifford lectures in 1892-3 nnd 1895-6, edited and published hy his hrother in 1900 as The Fundamental Ideas of Christianity. His other works include Sermons, 1858; Introduction to the Philosophy of Religion, 1880; and Spinoza, in Blackwood's Philosophical Classics. 1888.

Caird, Mrs. Mona, a well-known writer on social questions and anthoress. Has contributed articles to the Contemporary Fortnightly, Westminster, and other literary journals. Amongst ber novels are the Daughters of Danaus, 1896; The Wing of Azrael, 1889; and The Pathway of the Gods,

1898.

Cairn, or Carn, is a Celtic word signifying an artificial heap of stones. Prehistoric Cs. are usually sopulchral monuments or tribal cemeterles, like that of Tailten, and are found usually in some place of eminence. Cs. of the Stone Age, such as those of Macsbowe in Orkney, or of New Grange on the Boyne, near Drogheda, are chambered, with a circular, oval, or oblong ground plan. Tho chambers, in which burnt and unburnt human remains are found, are small, that at Gavr lunis in the Morhihan measuring 9 ft. by 8 ft., but they are usually approached by a long passage, often covered with ineised zigzag or spiral designs. The passage at New Grange is actually 63 ft. in length. The chamher roof is hechive-shaped in the British 1sles, hut in Scandinavia It consists of huge blocks resting on the sido walls. Cs. of the Bronze Ago are smaller and of circular construction. Besides the central eist of unhewn slahs, which is the actual place of burial, they often contain neolithic implements and tall, flat-bottomod and richly-ornamented bronze vessels. In medieval times Cs. were often used as the meeting-place of tribes, and in 1225 it is recorded that the lnauguration of the new chief, O'Connor, took place at the C. of Fracch. In a charter of 1221 the 'Carne of the Pecht's Fieldis' is mentioned as a boundary to the lands presented to the monks of Kinloss, and in the Highlands It was long the custom to pile small Cs. where the cosin of a famous man was' rested 'on the way to the gravoyard. Where stones were searce, the

earthen barrow, as in England, re-the Disrael ministry, 1868. One of placed the cairn.

Cairnes, John Elliot (1823-75).political economist, began life in his father's brewery, but proceeded to Trinity College, Dublin, and graduated in 1848. He was called to the Irish bar, but turned his attention to social and economic questions, and in 1856 became Whately professor of political economy at Dublin. Three years later he became professor of political economy and jurisprudence at Queen's College, Galway, and in 1866 he succeeded to the chair of political economy at University College, London. He belonged to the same school of thought as John Stuart Mill. His works include The Slave Power, 1862; Political Essays, 1873; and Some Leading Principles of Political

Pointed Essays, 183; and Some Leading Principles of Political Economy Newly Expounded, 1874. Gairngorm Stone (Cairngorum) (Gaelic carn, heap, gorm, binc), tho name of yellow and brown varieties of quartz, called after one of the peaks of the Grampians in Banfishire, Scotland, where it was found originally. This mineral occurs in crystals lining the cavities in highly-inclined veins of a fine-grained granite running through the coarser granite of the main mass. The stone is a special favourite in Scotland, and is used for various ornamentai purposes, e.g. set in the fids of snuff-mulls, in the handles of dirks, in brooches for Highland costume, in plns and brace-Highland costume, in pins and bracelots. Its value depends on transparency and colour. Quartz of yellow
or brown is known as 'false topaz.'
It is found also in Brazil, Russia, and
Spain. The yellow used in jowellery
is often called 'burnt amethyst,' or
'citrine.' The pale brown is also
called 'smoky quartz,' and when
aimost black the stone is known as
'mosile.' The reform is mobably due 'morion.' The colour is probably due to an organic pigment. The mineral is also found in the mountains of Mourne, Ireland, in Arran, and other parts of Britain, and very fine speci-mens in Switzerland and Colorado, U.S.A.

Cairns, municipality and scaport of Queensland on Trinity Bay, Nares co., 100 m. from Cooktown. It has a fine harbour, and is in a sugar district, with the Mulgrave gold-fields and Herberton tin-mine near. Pop. about 3500.

Cairns, Hugh McCalmont, Earl name which 819-85), British statesman, edu-into C. The Cairns, (1819-86), Britis cated at Belfa-1844. M.P. for

General under Attornoy - Gene

created Viscours garmoyie and Earl to the S. of the modern town. Shortly C., 1878. Lord High Chancellor in lafter A.D. 1176 Saladin erected the

the finest parliamentary orators of recent years, his best remembered speech being the 'Pcace with Dishonour,' after Majuba. See Earl Russell's Recollections: Memoirs of Lord Malmesbury, ii.; Law Journal, April 11, 1885; Times, April 3, 1885.

Cairns, John (1818-92), a Scottish Presbyterian divine, born at Ayton, Berwickshire. He studied at Edinburgh (1834-41) and Berlin universities (1843-4), and at the Presbyterian Secession Hall from 1840. Minister of the United Presbyterian Church, Berwick-on-Tweed, 1845-76; professor of apologetics in the United Presbyterian Theological Hall, Edin-burgh, 1867; principal of the Theo-logical College Edinary 1879. C.

travelled different

times. Among his works are; Examination of Ferrier's 'Knowing and Being,' and The Scottish Philosophy. Vindication and a Reply, 1856; e of John Brown, D.D., 1860; Life of John Brown, D.D., 1860; Unbelief in the Eighteenth Century Unbelief in the Eighteenth Century (Cunningham lecture), 1880; False Christs and the True (criticism of Strauss and Renan); Liberty of the Christian Church, and Oxford Rationalism, 1861; Thomas Chalmers (Exeter Half lecture), 1864; Oullines of Apologetical Theology, 1867; The Doctrine of the Presylerian Church, 1876; Christ the Morning-star, and other Sermons, 1803. C. also contributed to various periodicals, and tributed to various periodicals, and wrote articles on 'Schottland' and 'Kirchliche Statistik' in the second 'Kirchliche Statistik' in the second of Herzog's Realencyl-lopadie; on 'Infidelity' in Schaff-Herzog Encyclopadia; on Kant in eighth edition of Ency. Bril. See MacEwen's Life and Letters of Cairns, 1895; Scotsman, March 13, 1892; Masson's Recent Brilish Philosophy, 1865.

Cairo is the capital of modern Egypt and the most populous of African cities. Situated on the Nile, 12 m. S. of the head of the delta, and 148 m. E. of Sucz by rail, it extends over an area of some 10 sq. m. Whilst the S.E. portion, including the cita-del, rises on the rocks of the Mokat-tam Hills, the greater part of the city is built over the alluvial plain in the river valley. C., the fourth Mohammedan capital, was founded in A.D. 968 by Jaurel Kaid, who called it

641, to-10 Roman founded sum be seen at Masr-

C., which lies a mile

citadel and a portion of the city walls, and is quite unique, whilst the latter Under the dynasty of the Mameluke encourages the preservation of the which is now the flourishing port (and suburb) of C., and which lies at its north-eastern extremity. Sultan Selim overthrew their sovereignty in 1517, and from this date until 1798, when the city passed by conquest into the hands of the French, C. was the con-servative metropolisof Turkish Egypt. Turkish forces combined, and once more was obliged to submit to Ottoman rulc. In 1811 Mehemet Ali, the Turkish viceroy, hy his massacre of upper chambers of which serve ofteo the Mamelukes, acquired a mastery as schools, are found at every corner. over the city, which became the The traveller will be confused by the capital of an independent kingdom. | curious crics of the picturesque sellers During his reign, and still more under Ismail Pasha, who ruled from 1863, rapid changes took place. quarters were designed and thoroughfares opened out, and since the British occupation in 1882 improvements have multiplied thick and fast. It is to this occupation that C. owes its excellent water supply and drainage system. Formerly the deathrate was abnormally high owing to the prevalent insanitary conditions. A N. wind and the Nile floods help to moderate the summer heat; the mean temperature for the year is 68° After the annual inundation has subsided, damp exhalations from the river keep the surrounding country ly rain falls. cotton weaving and printing factories in Bulak, and there are a few paper mills and works, but, speaking gunpowder generally, the only commercial im-portance of C. is that it is a depot for the transit of goods of every variety from the Soudan, Upper Egypt, India, Persia, Asiatie Turkey, and also for many European manufactures. Place Atabet, to the S.E. of the Esbekiya gardens, is the central point for the The fine bouleelectric tramways. vard Mobammed Ali runs S.E. as far as the citadel, whilst on the S.W. the sharia Kasr-en-Nil leads down to the Great Nile Bridge, which connects the

of Phara and gilded domes. They are really the library and Arab museum, opened in mausolea of the Mamelukes, whom 1903, lic off the boulevard Moham | Mehemet Ali slew. It was the latter med Ali. The former contains some who built the alabaster mosque in the 64,000 volumes of eastero literature, eitadel, whose dome and slender

island Gezira Bulak, now given over to amusements, with the mainland. To the N. of the bridge are the large

barracks of Kasr-en-Nil and the

splendid .

quities, e fouoded a

tains the

sultans the capital prospered, and monuments of Arabic art, which were the town of Bulak was founded, for centuries neglected. From Place Atabet the Muski runs straight into the Oriental city, which lies to the E., whilst the western quarters are occupied by government offices. European public buildings, luxurious hotels, and the residential flats and villas. In this eastern portion, hesides servative metropolisof Turkish Egypt. the Arab city, there are the quarters Three years later it was wrested from of the Copts or Christians, of the Jews, these conquerors by the English and and of the Franks. The streets are upper stories due sky over.

ountains, the of sherbet and fruit, by the endless stream of horses, camcis, asses, and of fresh human beings of every nationality new and in every variety of the most hril-since liant colours. Side by side with the keen-witted native Cairenes he will see Bedouins from the desert, fellahin from the country, negroes and Nu-hians, Armenians and Syrians, besides representatives of all European countries. He will see the easy merehant sitting outside his little sliop, but he must frequent the markets or bazaars, that are held in the two-storied khans or warehouses, if he would appreciate the extent of the continuous huving and selling. chooses, the traveller may visit the Azhar University, established in 971, the great centre of Mohammedan intellectual life, whither two thousand students gather together annually from every eastern land. C. is a city of many churches, Coptie, Greck Maronite, Armenian, Syrian, and Maronite, Armenian, Syrian, and Roman Catholie, hesides mosques some of which display such purity of taste, such grandeur and withal siniplicity of conception, and such deli-cate arabesque, that they rival the Spanish palaces as specimens of the finest Arab art. Among the most beautiful are the mosques of Tulun, Kalaun, Barbuk, Kait Bey, and especially that of Sultan Hasan (1358). The three gates of the city, Bab-cn-Nasr, Bab-el-Futuh, and Bab-Zuweyleh, are splendid examples of the massive yet simple effects which the Mohammedan architects knew so well how to produce with the fine ashlar masonry. Beyond the eastern wall of the city lie the so-called tombs of the caliphs with their graceful networks and traceries, their shining minarets

minarcts are one of the picturesque French occupation of Tunis led to his landmarks of C., and in the centre of final downfall. which is the celebrated Joseph's well. Within the last century the population of C., including its suburhs, Abbasia and Mataria to the N.E., and Helwan, 14 m. to the S., has more than trebled itself. The total in 1907 was 654,476, of which some 40.000 only were Enropeans. The weird fas-cination of C. falls alike on European and Arab, but perhaps more on the former hecause of the very strange-Yet this is the ness of all he sees. extravagant description of an Arah, ' Ho who hath not seen Cairo, liath not seen the world; its soil is gold, its Nile is a wonder; its women are like the black-eyed virgins of Paradise: its honses are palaces: and its air is soft -- its odour surpassing that of aloes wood and cheering the heart; and how can Cairo be otherwise, when it is the mother of the world?

Cairo, city of Illinols, U.S.A., In S. at junction of the Mississippi and Olilo R., cap. of Alexander co., on the Illinois, Central, and other rallways, about 130 m. from St. Louis, and 360 m.from Chicago. In 1858 C. was nearly destroyed by flood, now it is protected by 4 m. of lovees. In 1888 a steel raliway bridge was built across R. Ohlo. C. is a shipping point for grain and oll, and trades in manufactured goods. In the Civil War it was a depôt for supplies. A marine hospital is there. It was the 'Eden' of Dickons' 12,500. Also the name of numerous post-villages and banking-towns in U.S.A. Pop.

Cairoli, Benedetto (1825-89), Italian statesman and soldier, was horn at Pavia. In 1848 he served in the war against Austria. He accompanied against Austria. He accompanied Garihaldi to Sicily in 1859, where he fonght at Calatafini, and was severely wounded at Palermo, and to the Tyrol in 1866, where he fought at Mentana. In 1870 he conducted the negotiations with Bismarck. In 1876 tho Left came into power, and C., a deputy of sixteen years' standing, hecamo leader of his party, and in 1877 formed a cabinet with a Françophilo and Irredentist policy, on the fall of the ministry of Depretis, Nicotera, and Crispi. General indignation was caused by his policy at the Berlin Congress, where Italy secured nothing, and the attempt of Passamente to assassinate King Humbert at Naples (1878) was the signal for his downfall, in spite of his personal hravery in defending the king. In In 1879 the Cairoli-Depretis ministry

Caisson is, in engineering work, a chamber of sheet iron, or sometimes wood, used in laying the subaqueous foundations of piers of bridges, quay walls, or dams. One type consists of a strong timber platform, to which sides are attached. One or two of the lower courses of masonry are built on to this, whilst it stands near the shore. and it is then floated out and sunk over the sito of the pier, already levelled by dredging or otherwise. Previous to this, however, the detachable sides are removed. The C. of another typo is bottomless, but pro vided with a cutting edge which digs into the earth on the application of weight. When enough earth has been excavated to allow the C. to sink to the required depth, concrete is shot into it to make the foundation solid. If the soil is hard and stony a different structure is used. The lower part of the C. is turned into a water-tight compartment, whose basis is the river bed, which may be duly lovelled hy hand excavation. This air chamher communicates with the outer atmosphere by an air-lock, which serves as the means of entry and exit of hoth workmen and materiais. Air is pumped down the metal column at a pressure corresponding to the depth below the surface of the water. When the men want to come out, the air of the lock is lowered to atmospheric pressure; in the same way it is raised to the pressure of the compartment when they want to return to work. The latter pressure is sufficient to counteract the tendency of the water to rise in the compartment. When the men have excavated down to a reliable stratum—the founda-tions of the piers of Forth Bridge reach down to the rock 75 ft. below high-water—their working chamber is filled with concrete through the shafts, and the bottomless C. is thus left emhedded in the work. Before such a C. is floated out, plate-iron walls are fastened round the strong roof of the working compartment, to form an upper, open box, in which the pier or quay wall is built up as the C. sinks lower and lower. foundations of Brooklyn Suspension Bridge and Antwerp quay walls were both prepared by Cs. of this description. In recent times the process has been made cheaper by the use of screw-jacks to raise the C., once the solid rock or bed has been reached. It is then available for the construction of the superimposed portion. The lifting continues till the pier rises was formed, C. holding the office of above the water-level, when the C. is premier and foreign minister, hut his ready for use elsewhere. Graving failure to foresee and intervene in the docks are often closed by means of

elosed iron or 'ship' Cs. These rise times president. In 1557 he built when the water-level inside is the a new court to his old college, ensame as that without, and can then easily be floated to recesses at the side. That at Toulon has an area of 57,218 sq. ft., and is 62 ft. deep. Sliding or rolling Cs. are similarly used. In shipping a C, is a contrivanee consisting of a hollow structure, provided with an air chamber, for lifting a vessel out of the water for repairs. It is sunk by being filled with water, hauled underneath the ship, and then raised by being pumped dry again. In military language a C.

Caithness

is an ammunition waggon.

Caithness, a co. in the extreme N.E. catanness, a co. in the extreme N.B. of Scotland, whose boundaries are Pentland Firth on the N., which separates the mainland from the Orkneys, the North Sea on the E., and Sutherland to the W. and S. The chief promontories of the bleak, rugged coast are Ord, Noss, Duncansby, Dunnet (346 ft.), the most northerly headland of Great Britain, and Hollym. The rivers Express and and Holburn. The rivers Forss and Wick Water drain Loehs Shurrery and Watten respectively, and the Thurso empties itself into Thurso Bay. The highest mt. is Morven in the S. (2313 ft.). The island Stroma and the Pentland Skerries belong to this county. Wick and Thurso aro the chief tins. C. shares a sheriff with Orkney and Shetland, and is repre-sented by one member in parliament. In spite of the severity of the winter storms and the provalence of northerly gales, the great belt of the Atlantic prevents excessive or continuous cold. The soil is poor and the moorland barren, yet good crops of harley, oats, potatoes, etc., are grown. The wool of the native sheep is in high demand, but the inhabitants live chiefly hy the cod, lobster, and especially the her-ring fisheries. There is no difficulty in letting the salmon fishing of the Thurso or the excellent shooting preserves. Flagstones are quarried at Thurso and Halkirk. Though there are rocks of quartz-schits, the chief strata belong to the Old Red Sand-stone age. The 'stacks' or detached sandstone pillars by the cliffs are very impressive. Pop. (1901) 33,870.

Caius, see Gaius. Caius, Dr. John (1510-73) (also known as Dr. John Kaye—C. being

ville Hall in 1529, and four years Guayaquil, on the railway from later was elected fellow. After saining Quito to Guayaquil. The modern bis M.D. at Padua in 1541 and travelling in Europe, he returned to England, where he gave anatomy lectures in London. Mado fellow of the College of Physicians in 1547, he the College of Physicians in 1547, he was, during his membership, nine bordering on Eenador, crossed by the

In 1557 he built dowed it with several estates, and in 1559 became master, and as a staunch Catholic put his Protestant fellows in stocks for burning his vestments. He obtained permission for Caius College to have the bodies of two malefactors each year for dissection, and may therefore be regarded as a pioneer in the cause of anatomy. Edward VI., Queen Mary, and Queen Elizabeth all employed his services

as physician. Caius College, Cambridge (pro-nounced Keys), was refounded in 1558 hy Dr. John Kaye, who was a favourite physician of Philip and Mary. The name Gonville com-Mary. The name Gonville commemorates the original founder, who was rector of Terrington, Norfolk. His college was removed to the present site in 1353. The first court was rehuilt in 1868, so that the college is no longer entered by the Gate of Humility in Trinity Street. In spite of extensive alterations, this famous gate, together with the Gates of Virtue and Honour, havo all heen preserved. Indeed the last has been preserved. Indeed the last has been spoken of as ' one of the most pleasing specimens of early Renaissance work in England. The stained glass of the chapel, which contains the splendid tomh of the founder, represents miracles by healing. Caius is still, as always, the great medical college of the university.

Caivano, com. of Italy in Campania, 7 m. by rail from Naples. (1901) 11,000.

Caix, Napoleon (1845-82), Italian philologist, was born and died at Boz-zolo, near Mantua. After studying at Cremona and Pisa, he becamo professor of ancient languages at Parma in 1869, and four years later he moved to Florence as professor of romance, languages, and comparative philology. His penetration and boldness οſ thought set the mark of originality on all his works. These include Saggio sulla storia della lingua et dei dialetti d' Italia (Parma, 1872), Sulla Lingua del contrasto (Rome, 1876), Le Origini della lingua poetica italiana (Florence, This last is considered his 1880). greatest work.

Cajabamba, tn. of Peru, S. America, dept. of Cajamarca, eap. of prov. of , 350 m. from Llma. Also a town of cuador (Rlobamba or Bolivar), cap.

ville Hall in 1529, and four years Guayaquil, on the railway from later was elected fellow. After gaining Quito to Guayaquil. The modern bis M.D. at Padua in 1541 and tra-town dates from 1797, when the

Area, about 12,550 sq. m. situated on a small river which runs Andes. There are four provinces, C., Caja- into the bay of San Miguel. bamba, Chota, and saen.
442,500. 2. Town, cap. of above manufacture of hats are the principal dept., 365 m. from Guayaquil. Ruins industries. Pop. 6000.

Calabar: 1. The name given to Calabar: 1. The name given to Calabar: 1. of ancient Peruvian architecture remain; the honse of Atahualpa, and the seat of the Inca, on Santa Apolonia Hill above the town. Near by arc the warm, sulphuric, mineral baths, 'Baños del Inca' (Inca thermal batbs), which are still frequented. C. is an important seat of trade and manufactures on the Pacific coast, producing textiles, straw hats, and steel. There are gold and silver mines steel. There are gold and silver mines near. It was prominent in Peruvian history. Pop. about 12,000.

Cajazzo, a tn. of Italy, in the prov. of Terra di Lavoro, situated on the Volturno, 11 m. from Capua. It is a hishop's sec. and is notable for the ruins of the Roman Calatia.

5843.

Cajeput Tree is the name given to Melaleuca Leucodendron, a species of Myrtacee, and occasionally to Litsea californica, a species of Lauracee. M. leucodendron, a native of Asia and Australia, is a small evergreen tree, with splkes of white flowers, which is often cultivated in hothouses. An aromatic oll, known as oil of Cajeput,

is distilled from the leaves.

Cajetan, Jacopo (Tomaso de Vio) (1469-1534), Italian theologian, surnamed C. from his bp., Gaeta (Caleta). He entered tho order of St. Dominic, 1484, studying at Naples, Padua, and Ferrara. Professor of theology and Philosophy at Brescia, Pavia, and Rome; general of his order, 1508. Leo X. made him a cardinal in 1517, sending him soon after as legate to Germany, to urge the emperor and Scandinavian kings to form a league against the Turks, and to bring Luther back into fellowship with the Church, 1523 legate to Hungary, recalled by Clement VIII .; 1527 prisoner at the sack of Rome. His works, Opera Omnia, were collected in 1639. They include translation of the Bible; Commentary on the Summa of Thomas Aqthe Pope, Sorbonne.

Scriptis de Vio Cajetani, 1881; Ekerman, Dissertatio de Cardinali Caje-tano, 1761.

Cakile is the generic name of four cruciferous plants found in Europe and America. The tap-root is very long, the shoots are prostrate, the leaves flesby, and the fruit is a two-

tribes on the Guinea coast by Portuguese explorers in the 15th century. Old Calabar, a seaport on the C. river above C. estuary, and the cap. of the eastern prov. of the British protectorate of Southern Nigeria, W. Africa. The pure negroes, the W. Africa. The pure negroes, the Efik, who migrated to C. about 1725, live in Duke Town in the valley, whilst the prin. buildings are on the The vegetation is luxuriant, and palm oil and kernels are the chief export. Pop. about 15,000. 3. New Calabar, the name of a port and river 100 m. to the east.

Calabar Bean, or the ordeal bean of Calabar, is a species of Legumlnose. Pysostigma venenosum, found in tropical Africa. It is a perennial climbing plant with a slender stem which attains a height of 50 ft.; the flowers are peculiarly formed and have a spurred keel. The dried seed was used formerly by the natives of Africa to test people accused of witch. craft, and it possesses very dangerous poisonous properties. It is of great value in ophthalmic surgery, as its value in openhalmie surgery, as its application to the eye contracts the pupil, and frequently relieves pain; in tetanus and other nervous diseases it is also of value. The bean owes its importance to the presence of eserin, an alkaloid which it contains.

Calabash, the hard shell of the fruit of the C. tree, or bottle-gourd. It is a plant belowing to the genus

is a plant belonging to the genus Lagenaria and the order Cucurbitaces. The common bottle-goard is a native of India, but the C. tree grows in W. Africa, tropical America, and the W. Indies. The shell of the fruit is extremely hard, and is made by the natives into all kinds of cups, basins, jars, etc., for holding liquids. The plant is a creeping one, and it has white flowers which produce this extraordinary fruit. Sometimes one may see a specimen of C. highly polished and elaborately carved. Of late C.
plpes have been extremely popular.
Calabria: 1. In Roman history is

the name of the modern prov. Leuce in the heel or sonth-eastern extremity of Italy. The peninsula was flanked W. and E. by the Gulf of Tarentum and the Adriatic Sea. From 272-266 B.C. there were six triumphs over the long, the shoots are prostrate, the leaves flesby, and the fruit is a twojointed silicula in which only one seed comes to maturity. C. maritima is the common sea-rocket, C. americana the American sea-rocket.

Calabanga, or Calabangan, a tn. on the island of Luzon in the Philippines, lent harbours, although C. had once

boasted of thirteen populous cities. Danube, almost opposite Vidden. It In spite of the lack of rivers, its soil is connected with Craiova by rail, was fertile, and in ancient writers and has a large grain trade. It is of there is constant mention of its historical interest, having figured in pastures, olives, vines, and fruit trees. In many wars. Pop. 7000. There were famous dye-works at Tarentum. The great artery of traffic, the Via Appia, passed through this port, and was prolonged to Brundineeted by a coast road passing through Manduria, Aletium, Veretum, and Lupiæ. The name C. was transferred to the territory of the Brutti on its subjugation by the Lombards in A.D. 668. 2. In modern times is the top of the heat the control of the heat that it has a subjugation by the Lombards in A.D. 668. These places were also con-A.D. 668. 2. In modern times is the toe of the boot, that is, the southwestern extrenuty of Italy. It has an area of 5819 sq. m., and is bounded by the sea on three sides, and on the N. hy the prov. of Basilicata. All the rivers are sbort. except the Crati. that waters the plain of Sibari, and this is 58 m. long. In the extreme N. Monte Pollino (7325 ft.) concludes the Apennine chain proper. The gravite mountains of C. fail into two The northerly, of which groups. Botte Donato is the highest peak, is terminated by the isthmus made by the gulfs of S. Eufemia and Squillace. the gairs of S. Eulemia and Squinace.
Aspromonte (6420 ft.) belongs to the
southern range. In summer the
climate is very hot, and there have
heen some disastrous earthquakes.
The terrible 'Messina' earthquake
11000 destructed Powerland of 1908 destroyed Reggio. Rain torrents also cause much damage, especially now that ruthless de-forestation has removed a natural protection. The eoast strips are fertile. Oüves, vines, fruit, and also wheat, rice, cotton, and tohacco are cultivated, but many economic disadvantages, such as the deficiency of railways in the interior, the lack of any middle class, and the preponderance of officials, have hitherto militated against industrial organisation. The inhabitants of the Albanian (France) railways respectively. colonies (estab. in the 15th century); still preserve all their national charaeteristics. Reggio di Calabria, Catan-zaro, Nicastro, Calabro, and Monte-leone are the chief towns. In 1901

American plants, cultivated on acvariegated leaves. C. Seguinum, the shoes. The came along dumb-cane, grows to a height of five Pop. 7500. Also the name of postor six feet, and secretes an aerid villages in U.S.A. poison which swells the tongue and destroys power of speech. C. Sagitti-

Calaborra (anet. Calagurris), a eity on the l. h. of the Cidaeos, in the prov. of Logrono, Northern Spain. The cathedral was first restored in 1485. Thousands of pilgrims visit the shrine at Casa Santa every year.

Wine, oil, and grain are brought to the markets from the Ehro valley. In 76 B.C. Sertorius defended Cala-

gurris against Pompey.

Calais, a seaport in the dept. of Pas-de-Calais, Northern France, 185 m. N. of Paris hy rail. The mediaval town is on an island, surrounded by the harhour hasins and the canal which connects the navigable rivers of the district with the harbours. Its Place d'Armes contains husts of Cardinal Richelieu and Eustache de St. Pierre, who with six other notable eitizens prevailed on Edward III. not to massacre the inhabitants when in 1347 they were forced to surrender. A 14th-century gateway is a relie of the Hotel de Guise, formerly the guildhall of the English wool merchants, but presented to the Duke of Guise in 1558, when he recovered the city C. is the chief from the English. centre for the manuf. of lace and tulle, which is carried on in the quarter of St. Pierre. Its exports, most of which are sent to the British Isles, are wines. spirits, hay, woven goods, fruits, and lace, whilst cotton goods, minerals, and timber are its cluef imports. During the five years 1901-5 the average annual excess of its exports (£8,000,000) over its imports was £4,243,000. More than 300,000 passengers annually cross the Channel between C. and Dover. The traffic is controlled by the South Eastern and Chatham and the Northern

Calais, a city of Washington co., Maine, U.S.A., on r. b. of R. St. Croix, 80 m. from Bangor. Several zaro, Nicastro, Calabro, and Monte-leone are the chief towns. In 1901 the total pop. was estimated at 1,439,329. Caladium is a genus of Araceæ, and consists of several species of S. lumber trade, foundries, and machine shops. Among its manufactures are count of their spotted skins and cottons, woollens, calcined plaster, variegated leaves. C. Seguinum, the shoes. The Calais Academy is there.

Calais, Pas de, see PAS-DE-CALAIS. Calaisis, or the Pays reconquis, was folium, the Brazil cabbage, and C. an important th. of Lower Picardy, esculentum, Indian kail, are both colible.

Calafatu, or Kalafat, a tn. of Rondald, sitnated on the l. b. of the control of the depts. of Oise, Aine, and Passillary and C. and C. and S. and S

Calamander Wood (prohably from Coromandel Coast), a very valuable cabinet-wood, like rosewood, only more heautiful and durable. Produced from the Diospyros hirsuta or quæsita of the order Ebenaces, of the same genns as the ebeny and persimmen trees. A native of S.E. India and Ceylon, it is becoming very rare. It yields vencers of exceptional beauty, and takes an oxquisito polish. The colouring is largely checolate and

fawn. Onocubicit. welghsahout 60 lb. Caiamata, see KALAMATA. Calamba, a small tn. on the island of Luzon in the Philippines. Fibre weaving is one of the chief industries, and fishing is carried on. Pon. 9500.

Calame, Alexandre (1810-64), Swiss painter and engravor, was born at Voyay, where his father was a stone-He studied painting at Geneva under Diday, of whose school he later hecame master. He travelled for some time in England, Holland, Gormany, and Italy, but all his best work represents his native Swiss sconery. He was theroughly imbucd with the spirit of his land, and succeeded in reproducing its giorlous variety with truth and energy. His works are to be found in German and Swiss galleries, and there are two at South Kensington. Among the hest, it will he sufficient to mention 'Mont Blanc,' 'Lake of Brionz,' 'The Lake of the Four Cantons,' 'Lake Lucerne.' His etchings are numerous and woll known, those of the scenery of Lauterbrunnen heing the most famous.

Calamianes, a group of islands helonging to the Philippines, situated midway botween Mindoro and Palawan. They have an estimated area of 615 sq. m. The principal Island Is Calamian, which is about 35 m. long and 15 m. wide. The chief production ls rice; great quantities of honey and wax are also produced. Total pop. wax are also produced.

16,500. Calamine, a term applied to two ores of zine and m alloy: 1. Zine Carbonate, occurring in rhomhoid crystals, white, yellow, hrown, green, or grey in colour, sometimes transluent. It is found at Matlock, Mondlp, Alston Moor, Leadhills, and nt Wanlockhead in Dumfriesshiro. 2. The native hydrous silicate of zine. The native hydrous silicate of zinc, occurring in white, green, blue, or yellow crystals, and usually found associated with the carbonate. It is also called sm phite. C. ls upainting of pc

and tin forme coating for iron utchaus.

green colour.

de-Calais cover the old province of the name to the common English Picardy. these plants is Lahiatre. The Calamint is very much like the other herbs, thyme and sage, to which it is related. They are very hardy plants and easily grown in any ordinary soil found in gardens in Great Britain. There are two very small varioties, namely C. glabella and C. Alpina which make excellent subjects for a rock garden: the larger kind, C. grandiffora, does very well as a border plant. This latter variety flowers in the month of Junc.

Calamis (fl. 440 B.c.) was an Athenian sculptor who made statues of Apollo, Aphrodite, and Hermes, as well as part of a chariot group, commissioned by Hicro, King of Syracuse. Archæologists cannot point to any work as incontestably his, but the hronze Delphic charioteer expresses so well his merits, as also his limitations, that there is every justification for the attribution of this masterplece to C. Pliny speaks of his grace and delicacy, and these qualities at once impress the student as he observes the refined, almost girlish, expression of the charioteer's face and the charming simplicity of the straight folds of his long and flowing collton. Certain conventionalities in the treatment of head and drapery further convince the student that the statue must he the work of a predccessor of Myron, Polyelitus, and Phidias.

Calamites are the fossil plants of most frequent occurrence, and are believed to belong to the Equisitacere. Many of them are gigantic in size for their group, reaching a height of 30 ft., and they are reed-like in appear-ance. The root termination is conical, the stems hollow-jointed, with whorls of hranches which in their turn hear whorls of leaves and slender cones, and the bark is sometimes thin, somotimes thick. They seem to grow in clumps in damp clay soil or under water, and occur abundantly in the Dovonian to the Jurassie strata. The leaves receive various names, e.g.

phyllum. Calamus is the generic name of two liundred species of tropical palms nativo to Asia, Africa, and Australia. Most of these plants are leaf-climbers with long thin stems, and many have hooks growing from the under side which nttaeh themselves to passing objects and prove very troublesome. The stem of C. Scipionum supplies Malacca cane, of C. Rotang, C. rudentum, C. tenuis, and C. verus rattan-cane, while C. Draco yields the 'dragon's blood' of commerce.

annularia, asterophyllites and spheno-

ating for from utchans.

Calamy, Benjamin (1642-86), PreCalamintha, a genus of herbs giving bendary of St. Paul's, son of Edmund

Educated at St. Paul's and at Cam-Chaplain in ordinary to the king (c. 1677). His Discourse about a Doubling (scrupulous) Conscience appeared in 1683. It was dedicated to Jeffries. The Nonconformists accepted it as a challenge, roplying to it hy De Laune's A Plea for the Non-conformists, which cost its author his life, in spite of C.'s intercession. The execution of Cornish broke C.'s bealth. Sec Biographia Britannica, 1784; Birch's Life of Tillotson, 1753; Calamy's Hist. Account of my

own Life, i., 1830. Calamy, Edmund (1600-66), English divine, b. at Walhrook, London; educated at Cambridge, where be joined the Calvinists; became chaplain to the Bishop of Ely. From 1626-36 he was a lecturer at Bury St. Edmunds, but later left the Anglican Church for the Presbyterian, becoming in 1639 minister of St. Mary, Aldermanbury, London. Here be officiated for twenty years, being throughout a supporter of the Royalist cause, and becoming chaplain-in-ordinary to Charles II. He was one of the Presbyterian representatives at the Savoy Conference in 1661, but was ejected from his living in the next year under the Act of Uniformity. He was one of the five compilers of Smeetymnuus, 1641, a polemical work written in reply to Bishop Hall's Episconacy by Divine Right, 1640.

Calañas, com. of Andalusia, Spain, about 20 m. from Huelva, dist. of Valverde del Camino, producing

copper. Pop. about 9000.

Calandra is a genus of insects belonging to the Curculionide, or weevils. C. granaria, the corn-weevil of our granaries, is a little heetle which bores a hole in the grain and there doposits its egg, which grows into a destructive gruh. C. orizæ infests rice, and C. palmarum lives during its larva state in the pith of palms of

South America.

Calanus (Gk. Kálavos), an ancient Hindu philosopher, helonging to that sect known to the Greeks as Gym-According to Plutarch, nosophists. his real name was Sphines. He came into close contact with Alexander the Great, and spent some time at his camp in India. At Pasargarda he camp in India. At Pasargarda he hecame sick, and, at his own request, was burned alive on a funeral pyre. Just hefore his death he is reported to have said to Alexander, 'I shall soon sec you again in Bahylon,' a specch which is regarded as a pro-phecy in the light of Alexander's death at Babylon a few months later. See the Anabasis of Avrian.

Calappa, the typical genus of the Calappide, is a brachyurous decaped

C. the elder, the Presbyterian divine. | crustacean with a rounded and crahlike cophalothorax. The species bave crested claws, and the abdomon is hidden under the thorax. Their geographical distribution is wide, and they are found in the warm seas. C. granulata is a crab which occurs in the Mediterranean.

Calathea

Calarasi, or Calarache, the principal tn. of the dist. of C., Roumania. It is situated on a branch of the Danuhe, and has a good export trade in timber, wheat, hemp, and linsced. Pop. 11,024.

Calas, Jean (1698-1762), a French Protestant merchant. accused of having strangled his son, Marc Antoine (who bad probably mitted suicide), to prevent his turn-ing Roman Catholic. He was condemned by eight judges of Toulouse to be hroken on the wheel. fostered by Roman charge was Catholic societies, the White Penitents and the Franciscans. This judicial murder caused an agitation in which Voltaire played a leading part. His generous efforts got the sentence against the family annulled, sentence against the lamby aminocutand resulted in the amiclioration of the legal position of French Protestants. In 1765 the stigma was removed from C.'s name. See Voltaire, Sur la Tolerance; Coquerci, Jean Calas et sa Famille, 1858; Dryandar, Der Prozess Calas, 1887; Kreiten, Vallaire, 1878.

Der Prozess Calas, 1887; Kreiten, Vollaire, 1878.
Calascibetta, a tn. of Sicily, 15 m. from Caltanissetta, in prov. of Cal-tanissetta, on a hill opposite Castro-giovanni. Produces wine, silk, olive-oil. Pop. 9000.

Calasparra, a in in the prov. of Murcia in Spain, lies about 40 m. distant from the anct. tn. and cap. called Murcia. Agriculture the prin-occupation of the inhahitants.

Calatafimi, a tn. in prov. of Trapani, N.W. Sicily, 8 m. from Alcamo, 32 m. from Palermo. Ruins of anct. Segesta are near; Garihaldi defeated the Neapolitans, 1860, ahout 2 m. from C. Pop. (1901) 11,500.

Calatayud (castle of Ayud), a tn. of Saragossa, Aragon, Spain, on R. Jalon, about 45 m. from Saragossa, on main railway to Madrid. In the older parts of the city there remain cave-dwellings in the rock. There are mineral springs near, stalactitic caverns, and the ruins of Martial's birthplace, Bilbilis. C. is of Moorish origin, the name, in Arabic, meaning 'Joh's eastle.' The exterior is Imposing, but the town is now backward and purely agricultural. Pop. ahout 11.500.

Calathea is a genus of Marantaceæ consisting of perennial herhaceous plants which are natives of tropical America and W. Africa. The leaves have a petaloid staminode. In the W. Indies the tubers of C. Allouia, topce tampo, are used as a suh-

stitute for potatoes.

Calathus is a genus of coleopterous insects of the family Carabidæ, or ground-bcetles. The species are generally black or brown, and C. cisteloides, a black beetle with black antennæ, red at the basal joint, and either red or black legs, is commonly found on English pavements.

Calatrava la Vieja, ruined fortress in Ciudad Real, Spain, on the R. Gnadiana, 65 m. S.E. of Toledo. In the middle ages it was considered the key to the Sierra Morena. It was taken from the Moors in 1147. The military order of Calatrava was founded here in 1158. The ruins give their name to the surrounding district, known as the Campos de Calatrava.

Calauria, a small island in the Gulf of Ægina, Greece. Interesting historically, because the celebrated Greek orator Demosthenes committed suicide in the templo dedicated Poseidon in order to escape being taken by Antipater. This occurred in the year 322 B.C.

Calaveras, co. of California, U.S.A., called after R. Calveras which runs cancel after R. Calverss which runs; through it to join R. San Joaquin, about 12 m. below Stockton. Area about 1080 sq. m. Bounded N.W. by Mokelumne R., S.E. by Stanislaus R. On the E. are the Sierra Nevada. C. has rich gold and copper mines, and contains one of the most famous and frequented groves of 'Sequoia gigantea.' Capital, San Andreas. Pop. about 11,000. Also a portvillage of Texas.

Calbayog, a tn. in Samar Is., situated on the R. Samar, and forms one of the group of Philippine Is. Very pleasant climate. Chief export hemp. Extensive rice plantations, and good

timber trado.

Calcaire Grossier, the name of a number of limestones and marks very rich in fossils. They developed in the Paris basin, and are thought to date back to the middle of the Eccene period. The limestones yield many varieties of fossil shells, and also a great number of mammalian remains.

Calcareous Rocks, Soils, Tufa, etc. (correct spelling calcarious, from Lat. calz, limestone): 1. Rocks that contain much lime, especially in the form of carbonate (CaCO₃), whether calcite or aragonite. Usually such rocks are agneous, and those formed in the sea are composed of the fossilised remains marine animals (brachiopods, corals, crinoids, echinoderms, mol-

are very beautiful, and most species | These rocks are mostly of organic origin, the lime salts of sea-water heing extracted by the living tissues of these animals and deposited in the form of carbonate of lime by shellsecreting membranes. Others are formed as precipitates by the evaporation of calcarious solutions, for example, stalactite and calc-sinter (calcarious tufa), and probably oblite (all chemically formed). A crystalline structure, varying from partially crystallised limestones to granular statuary marble, is produced by meta-morphic action. These are usually morphic action. These are usually associated with the crystalline schists and the contact rocks developed by the action of heat given out by great masses of cooling granite to surrounding rocks. The existence of the carhonate in rocks can be discovered by applying dilute nitric or muriatic acid. Effervescence is thus caused through liberation of carbonic acid. Quicklime is obtained by calcining these rocks.

2. Calcareous soils are produced by disintegration of calcareous rocks. When these rocks are pure they yield rather barren soils of little agricultural value, as is the case in many chalk and limestone districts of Britain. They are thin and full of hard flint nodules, more adapted for pasture than agriculture. If the rocks contain lime mixed with clay so as to form marl, with a little vegetable matter added, they form a good, friable, rather light soil. It is rather difficult of drainage, as soft limo retains water so readily, but yields it up by evaporation. After rain it son dries on the surface, but rarely suffers from sovere drought. Calcareous soils, being light in colour, absorb heat slowly. They are often rich in phos-phates, but lack potash. Most solls are improved by a certain amount of calcarcous matter. Peaty solls are often dressed with chalk. See Fream, Soils and their Properties, 1890; King, The Soil, 1900; M'Connell's Agricultural Geology, 1902; Hall, The Soil, 1910 1910.

Calcareous Tufa, or calc-sinter (calc-tuff), also travertine, stalactite, onyx, marbles, are porous deposits of carbonate of lime, formed by the waters of calcareous springs. Water charged with carbonic acid can dissolve carbonate of lime out of the rocks, and, when it emerges into the air, deposit part of it again as an incrustation. Such springs are some-times called 'petrifying springs,' as objects placed in the water are covered with the deposit. There are covered with the deposit. There are noted examples of these at Matlock, and along R. Arno at Tivoli, near Rome. The formation there is hard luses and the like). Many Palæozoic and along R. Arno at Tivoli, near limestones are composed of shells, Rome. The formation there is hard corals, etc., others of foraminifera. and compact, and much 'travertine

is used as a building-stone at Rome. similar to that adopted for the her-Other well-known springs are at Carlshad, Bohemia; at Clermont in Calchas (Kalxas), the wisest sooth-Anvergne; and in the Yellowstone, sayer who accompanied the expedi-region, N. America. Calcareous in-creptations often seen in carears in the carears in the carears. crustations, often seen in caverns in limestone rocks, are varieties of cal-careous tufa, and are called stalac-tites and stalagmites. When free-from impurity the deposit is white or translncent, but often it is stained with other substances, and is yellow, brown, or grey in colour, and sometimes variegated. It is a spongy, cellular, or concretionary structure, often handed, and showing rings of growth. It is found in a variety of forms, massive, tubular, hotryoidal, or encrusting animal and vegetable remains, such as leaves, twigs, moss, nnts, or insects. It is often quarried for huilding purposes, heing soft at first, hat becoming hard and solid through exposure to the atmosphere. The temples of Paestum, Italy, were constructed of massive calcareous tufa. Calc-spar is carhonate of lime, rhomhohedral in crystallisation. Cal-careous waters are called ' hard,' contain much carbonate and sulphate of lime, and form a deposit when heated.

sayer who accompanied the expedi-tion against Troy; son of Thestor of Mycenæ, or Megara. At his sugges-tion Philoctetes was fetched from Scyros. He advised the making of the wooden horse. In accordance with the oracle he died on meeting Mopsus (a wiser soothsayer) in the grove of Clarian Apollo, near Colophon. See Ovid, Mcdam. xii.; Homer, Riad, L and ii.; Virgil, Enetd, ii.; Straho, vi. and xiv.

Calciferous, a name applied to a system of sandstones and limestones found in N. America.

Calcierous Sandstone, the name given to a division of the carboniferous system found in Scotland. It consists of two sub-divisions, the lower being called red sandstone and the npper cement stone. It is from the shale occurring in the latter rocks that the mineral oil produced in Scot-land is obtained. Volcanic rocks are also found in this strata.

Calcination, the metallurgical name for hurning or roasting an ore. It can either he performed in an air hlast to

lime, and form a deposit when heated Calecola, or Slipper Coral, a fossi belonging to the middle Devonian period. Very abundant in the limestones at Eliel on the Rhine in Germany. It derives its name from its peculiar formation in the semblance of the toe of a slipper, heing conical, rather flat, and curved and tapering to a blunt point.

Calceolaria, a genus of plants to constituent the class known as alkaline earth rather flat, and curved and tapering to the class known as alkaline earth rather flat, and curved and tapering the class known as alkaline earth the collection occur free in the originally from S. America, Mexico, and the West Indies, but now extensive cultivated by gardeners in this country. The order is Scrophulariaceae. There are two kinds of C. phate as gypsum and selenite, while the herbaceous varieties are generally procks contain it, as also do organic the herhaceous and the shrubby. The herhaceous varieties are generally rocks contain it, as also do organic grown from seeds, sown in July in a bodies, hones being formed chiefly of light soil, composed of sand, leaf-though and loam. A cool greenhouse is difficult to obtain, and so not well suits their growth at all stages, and they flower from May to July. The shrubby kinds are generally produced they flower from May to July. The shrubby kinds are generally produced by means of cuttings that should be if left in damp air it tarnisbes with taken in September. These cuttings formation of hydroxide, but if the should be put in a cool greenhouse air is dry it remains bright for some after planting them in a soil composed of fine fibrous loam and silver hydrogen, and isnites if heated in air sand. When the roots have struck, he plants should be put in pots and placed in a frame with the sun's direct may be obtained by electrolytic rescribes. It is first to isolate C. in the plants should he put in pots and placed in a frame with the sun's direct may be obtained by electrolytic rescribes. It is first to isolate C. in first of soil and then transplanted into action of sodium on C. iodide. The hisger pots. This transplanting should excess of sodium is extracted by higger pots. This transplanting should excess of sodium is extracted by nigger pots. Inistranspianting should excess of somem is extracted by go on until the seven-inch size pot is absolute alcobol. Compounds of C. attained, or at all events until they are widely used and very important can be planted out, in the month of substances. The oxide CaO, or quick-May. If the sbruthy C. is kept grow-lime, is burning limestone and coal in lng in pots, it does best in a soil klins, the carbon dioxide being driven

amorphous, very infusible, and incandescent, being used with the oxyhydrogen flame in limelight. Mixed with water it forms C. hydroxide or slaked lime, the combination being accompanied by evolution of beat. Slaked lime when mixed with sand forms mortar. C. chloride occurs naturally and as a by-produot from many manufacturing processes. It is extremely hygroscopic when anhydrous, and is used for drying gases (except ammonia, with which it combines). Bleaching powder, sometimes called chloride of lime, is Ca(OCI)CI. and is obtained by the action of chlorine on slaked lime. Plaster of Paris is C. sulphate deprived of some of its water of hydration by heat. On adding water rehydration occurs, and scienite is formed and sets in a hard mass. C. carbide, used for production of acetylene, is produced by heating ehalk with earbon in an electric furnace. C. sulphide is a phosphorescent substance used for luminous paint. It is prepared by passing H.S over heated lime. The property of iumi-nosity is probably due to an impurity, for it is found that puro C. sulphide is not luminous. The hardness of water may be classed as permanent or temporary. The first is due to the presence of C. sulphiate and tho second to C. bicarbonate. The latter may be removed by boiling the water or adding line so that the insulphic caradding lime so that the insoluble carbonate is formed and by filtration can be removed. Hardness in water is explained by the fact that the sodium stearate in the soap is converted by the C. salt in the water into C. stearate, which does not lather. C. salts when volatilised in the flame of a Bnnsen hurner produce a brick-red colouration. From the Calculating Machines. earliest times the need for mechanical aid in performing long calculations,

which require no skill, but mercly accuracy, has been felt, and various supple contrivances, such as the abacus, have been invented to meet this want. More complicated machines, providing for various kinds of calculation and degrees of accuracy, have been produced in this country since the 17th century, one of the earliest being 'Napicr's Bones.' This appliance, which consisted of ten simple contrivances, such as the appliance, which consisted of ten rectangular slips of wood, having the digits and their multiples on each of the four sides, was intended for use in multiplication and division. **Its** use was described by the inventor, Napier of Merchiston, in his Rabdologia, 1617, and was received with considerable enthusiasm by the mathematicians of the day. Shortly

off from the earbonate. It is white, of astronomy at Gresham College, produced bis surveying chain, scale, logarithmic line, and line of numbers, the principles of which are still in use in the slide rule, much employed by engineers. The calculating machines invented by Pascal in 1642, Sir S. Morcland in 1666, and Leibnitz in 1671 were of little practical use. Ιn the two former the addition of each place of figures had to be made separately, while the last, a model of which still exists at Göttingen, was intended for use in astronomical calculations. In 1775 a machine consisting of twelve ten-sided prisms, each face of which has a rack engaging in a toothed wheel, was put on market by Viscount Mahon. prisms were pushed in one direction for addition and the other for subtraction, and these operations were repeated for multiplication and division. Circular machines were invented in 1779 by Hahn and in 1784 by Müller, but the first invention of the kind of real importance was that made by Charles Babbage about 1822. His machine, which was intended to calculate numerical tables by method of 'differences,' was left uncompleted at his death. The invention of the arthmometer, by M. Thomas de Col-mar, about 1850, marked a great stride forward. This machine, which will add, subtract, multiply, divide, and extract square root, is easily operated by turning a handle, and is accurate and rapid in its results. The

> Several improvements on this machine have since appeared. Another advance was made by the production dealing

the first (1888).

have produced variants of this type. The cash registers so largely in use at the present day are a development along the same lines. The electric tabulating machine in use in the United States, and the planimeter, for use in geometrical calculations, are examples of other kinds of calculating machines.

Calculus, in mathematics, any systematic method of arriving at a solution of a sories of problems. Specifically, the term is applied to the differential C., with which the integral C. is closely associated. Tho nethod has its germ in certain calculations devised by Archimedes, the Syracusan mathematician, who lived in the 3rd century n.c. The processes referred to depended upon the comparisons of curvilinear figures or afterwards Edmund Gunter, professor curved surfaces with the inscribed

rectilinear figures or plane solids. The work of Archimedes was restricted hy the poverty of symbolic methods, and it was only after the development of algebra by Vieta in the 16th century that the methods of Archimedes received any extension. Cavalieri proposed his method of indivisibles in 1635, and about the same time Roherval made the conception of what he called fluxions. latter considered curves formed by the motion of a point and obtained the direction of the tangent of the curve hy a composition of tho velocities of the point as determined by the nature of the curve. Newton and Leibnitz, both prepared specific notations, each for his own notions of quantity. That of Newton survived quantity. That of Newton survived until the beginning of the 19th century, hut has since been generally discarded in favour of Leibnitz's The nature of the general system. problem may he apprehended hy considering certain operations in arithmetic to which an approximate answer only can be given. quantity ropresented by the symbols $\sqrt{6}$ may be found to any required degree of accuracy, so that the square of the fraction may be found to approach 6 nearer and nearer without actually reaching that number. This may be expressed by saying that 6 is the limit of the value $x \times x$, where x represents the square root to nearer, although the value will never reach 2 for any extent of the pro-The series of quantities gression. 1, 1, 1, 1, 1, etc., gradually decreases without limit, but if we take the ratio of each to its predecessor, we get the alphahet and constants by the 1, 2, 3, 4, etc., a series of quantities first letters. When quantitles are which gradually increase, hut w: out reaching the value 1. crease, therefore, is not without lir and by taking two successive qua: and by taking two successive dua-ties sufficiently small, we may ge ratio as near unity as we ples Suppose part of the circumferoner a circle to he cut off hy a chord; ratio of the chord to the part of diameter cut off by it increases as

chord approaches the circumference. In the case of the hase of an isosceles triangle being moved parallel to itself towards the apex, the ratio, of course, romains the same, but the extra bulging out, as it were, of the circle means that the chord does not decrease in the same proportion as and one may

* the circumfer-

ence heing magnified and again Calculus, in medicine, a concrotion magnified to ocular vision while the forming in any part of the hody by

movement of the chord goes on. Tho nearer it approaches the circumference the more times will the chord contain the perpendicular. By taking a sufficient number of such small chords we can approach as nearly to the length of the whole circumference as we please. It is true that the greater the number of arcs, greater the number of orrors will be; hut, as has been shown, the pro-portion of the error to its whole are diminishes, so that the total error hecomes less and less. With reference to the problem of finding an are of a known curve, it may roughly be said that the differential C. ascertains what is the form and value of the parts which are to he added; the integral C. adds them together and gives the result. The assumption made in what was formerly called the Infinitesimal C. is that all the constitutions and the constitutions of the constitution quantities can be subdivided into an infinite number of infinitely small parts, each part being less than any assigned fraction of the whole, and yet not equal to nothing. Quantities connected with ourves may be said to be of two kinds, called constants and variables. . Constants are quantities which are looked upon as always having the same magnitude, such as the radius of a circle or sphere, while variables are quantities which may have a number of particular values, as the co-ordinates of any point on the curve. Variables are also distinguished as being independent or dependent. A dependent variable changes according to changes in the value of another quantity, and is usually called a function of that quantity, thus, 2x, x^2 , a+bx are all functions of x. Independent variables are denominated by the last letters of infinitely

functions ic. Inte-PINEBOL SMIL BOMENT ve taken as the converse of differentiation. requisites for a study of the C. are a knowledge of algobra to at least the hinomial theorem, plane and solld geometry, plane trigenometry, and the simpler principles of the application of geometrical methods to algobra and vice versa. A good modern text-book is Lamb's Infinilesimal Calculus.

ments arc

o ratio of

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is usually thestudy 1 the first of these

central coro. classified according to their structure, composition. Allernating or laminated calculi are cemposed of layers material superposed on one another. As regards position, calculi may be aural, formed of hardened secretions in the external auditory canai; nasal. in the nose passages; salivary, formed in the salivary ducts; bronchial, formed in the air passages; arthritic, or gouty calculi, formed at the joints; biliary, or gall-stones, in the gallbladder; renal, in the kidneys; vesical, in the bladdor; prostatic, in the prostate; and uterine, in the uterus. The method of their formation may vary also. Organic calculi are those which have a nucleus of epithelium, blood, etc.; fatty, those which have a nuclous of fat; blood calculi, consisting of fibrinous matter and blood corpuscies: and chalky calculi, consistlag of culcium carbonate and calcium phosphate usually with some foreign body as a nuclous. Urinary calculi are those formed in the bladder and urinary tract. They consist of concentric layers of substances crystallised out of solution and comented together by mucus, etc. The substances may be urle acid and urates, or phosphates of calcium and magnesium, or mixed calcull of hoth urates and phosphates, or calcium carbonate, or organic substances found in the urine, as cystin, xanthin, and fibrin. The calculi are commonly called sand, gravel, or stones according to their size, and are usually the result of some derangement of the general health, often due to free living or lack of exercise. Secondary calculi says these formed as a result. calculi are those formed as a result of the diseased condition of the urinary tract, and are, therefore, often met with in cystitis or inflammation Treatment varies of the bladder. with the composition of the concretions and the conditions which have set them up. The introduction of selvents is of value in some cases, but stubborn growths need to be crashed and removed by surgical operation. Calculi often cause little that the trouble to the person affected, but as there is a risk of thom being drawn into narrow passages and thus causing possibly dangerous obstructions, prompt treatment is usually advisuable.

On the size, pegins in 1886, when Job Charnock established a factory of the East India Company there. The old East India Company there. The old as there is a risk of thom being drawn fort William was erected in 1996. In into narrow passages and thus causing possibly dangerous obstructions, prompt treatment is usually advisuable.

Caldara as Capture 1986, when Job Charnock established a factory of the East India Company there. The old East India Company there. The old Fort William was erected in 1996. In 1976, when Job Charnock established a factory of the East India Company there. The old as there is a risk of thom being drawn into a subject to the person affected, but the causing person in the succession of the causing person in the succession of the causing person in the succession of the causing person in th

Calcutta, cap. city of British India and scat of the Presidency of Bengal, situated on the E. bank of the R. Hugli, being connected by a bridge with Howrah on the W. hank, about 50 m. from the sea. The city, which is the temping of numerous grillways. is the terminus of numerous railways

the accumulation of matter round a along the river, with excellent anchor-They are variously age and a depth of water permitting ing to their structure, ion, and location. are layers of different laye Docks. The chief hindrance to navigation is formed by shifting sandhanks. The waterway of the Hugli is connected by the Nadiya R. with the Ganges, by the Sundarbans with the Brahmaputra, while the Midnapur Canal forms a highway for vessels to the W. The city, which is well drained and has an excellent water. gas, and electricity supply, and a tramway service, consists of a Euro-pean and a native quarter. The former, which lies E. of the ' maidan, or great park, is entirely western in appearance. The Chowringhee, or residential portion, contains some splendid mansions. The commercial part of the city centres round the site of the old Fort William, and contains most of the government and other public buildings. These include the Government House, the High Court, the Town Hall, the Mint, the Cathe-dral, the University (founded 1857), and numerous museums, colleges, and churches. The present Fort William (1757-73) stands in the 'maidan.' The native city has some fine streets and several magnificent palaces of Indian potentates. C., from its position as the natural outlet of the Ganges and Brahmaputra valleys, has an enormous trade, having only recently taken a second place to Bombay as a commercial centre, and dealing with about a third of the total trade of India. The exports, which considerably exceed the imports, consist of jute, indigo, rice, what is illeged a prive a other too. wheat, oil-seeds, opium, cotton, tea, sugar, cofice, hides, silk, saltpetre, matting, ctc. The imports include cottons, linens, and silks, hardware and metals, coined silver, wines and spirits, and salts. The manufactures are mainly in the hands of natives. but there are also sugar refineries and cotton mills. The history of C., which takes its name from a vill., Kalikata, on the site, begins in 1686, when Job

Caldara, see CARAVAGGIO.

Caldas, Pereira de Souza, Antonio (1762-1814). Brazilian poet, was born at Rio de Janeiro, and received his educationat the university of Coimbra, Portugal. He spent some time in France, and then went to Rome, where he was ordained priest. On his and canals, lias a port extending 10 m. return to Brazil, he published a col-

Caldas da Rainha, a tn. 47 m. N. of Lisbon, and lies in the prov. of Estressuphurous and saline springs. 'Cal-Garstang Church. das' is a Spanish and Portuguese Garstang Church. das' is a Spanish and Portuguese term for 'hot springs.'

from Pontreveda.

Caldecott, Randolph (1846-86), an Caldecott, Handoipi (1840-80), an English artist, worked in a hank, 1861-72, hut always showed a taste for art. His first sketches appeared in local papers, 'Will o' the Wisp,' 1868, and 'The Sphinx,' 1869. He began his art career in London, 1872, with sketches for London Society and other periodicals. He hecame a student at the Slade School, and won the friend-ship of Mr. Armstrong of South Kensington Museum. C. became South famous as illustrator of Washington Irving's works. 'Old Christmas' (selections from the Sketch-book) appeared 1875; 'Bracebridge Hall,' peared 1875; Bracebridge Hall, 1876. In 1877 he illustrated Comyns North Italian Folk; Carr's 1879 Folk: 1853 Blackhurn's BretonÆsop's Fables with Modern Instances. He also supplied designs for stories of Mrs. Ewing and Mrs. Locker. 1882 memher of Institute of Painters in Water Colours, exhibiting there, at Grosvenor Gallery, and at Royal Academy. In 1876 his oil-painting, 'There were three Ravens sat on a Tree,' was in Royal Academy. He also modelled the bronze bas-relief, 'Horse-Fair in Brittany.' His greatest work was the series of coloured hooks for children, starting 1878 with John Gilpin and The House that Jack built, ending 1885 with Elegy on

lection of Sacred and Profane Poems; length 40 m. 2. In Lancashire, join-

1830), Italian architect, b. at Vicenza. Caldas da Reyes, a tn. in Spain in He formed his style on the model of the prov. of Galicia, and 51 m. distant Palladis, and imitated him with great success. Among his chief works were the palaces of Bonini, Loschi, Cordellina (1776), which is one of his best productions, and Antisola at Vicenza, and the seminary at Verona, which is generally acknowledged to be his masterpiece. He was an associate member of the Institute of France, and published a treatise on architecture. His plans were published posthumously (1807-17) by Diedo as Opere di Architettura. Diedat Vicenza. See his Life and Works (in French)

hy J. le Breton, 1804. Calderon de la Barca, Don Pedro (c. 1600-83), Spanish poet and dramatist, born in Madrid, of a noble family; educated at the university of Sala manca and showed great precocity, producing a play, El Carro del Cielo (The Chariot of Heaven) at the age of thirteen. He seems to have served with honour as a private soldier in several campaigns in Italy and the Low Countries during 1623-29, and having already become famous as a dramatist, was invited to the court of Philip IV., and made a knight of the Order of St. James about 1636. He produced an enormous number of plays of all kinds till about 1652, when he entered the church and became a canon of Toledo, thereafter confining himself to works on sacred subjects. He gained great preferments Madam Blaice and The Great Panjan- in the church, hecoming a chaplain to drum Himself. See Blackburn, Ran- the king in 1663, and later superior of dolph Caldecott, Personal Memoir of the Congregation of San Pedro. As a his Early Life, 1886.

Calder, Sir Robert (1745-1818), a Vega, whom he excelled in moral British admiral. He entered the navy | depth and purity and grace of expresoritish admiral. He entered the hattle leion. He fell far below Lope in invension 1759, and was present at the battle leion. He fell far below Lope in invension he was knighted for bringing suffers from his disregard of conventioned dispatches. In 1804 he was tional dramatic rules, his brilliant promoted to the rank of rear-admiral; imagination leading him into exint he following year he was stationed travagances. The lofty moral stanoff Cape Finisterre to intercept the dard of his plays and their refined French and Spanish fleet, fleeing clearness of language made them a before Nelson from the West Indies. C. succeeded in capturing two Spanish drama was beginning to suffer from ships, but was outnumbered, and the lasciviousness and floridness of retired to Brest. He was tried by Lope and his school. His great fault court-martial, and censured for an is a lack of insight into human nature, error of judgment. He retired from but his plots are managed with such active service, but rose to the rank skill and spirit that this defect is not of admiral in 1810.

Calder, River, the name of four plays were very popular at court, rivers in England: 1. In West Riding, they had qualities of simplicity and Yorkshire, rising near Burnley and precision of diction which rendered joining the R. Aire at Castleford; them intelligible to the lower classes

as well as to educated audiences. His Prodigioso, a religious drama somewhat reminiscent of Faust, and pro-bably the best known in this country, part of which has been translated into English by Shelley; La Vida es Sueno (Life is a Dream), a philosophical play which runs the former very close in its continental reputation; El Principe Constante (The Constant Prince), an historical drama on the subject of Prince Ferdinand of Portngal, which, together with the former, has been translated into German by Schlegel; El Alcadede Zalamea; El Divino Orfeo; El Purgatorio de San Ditino Orfeo; El Purgatorio de san Patricio, another religious play; La Dama Duende (The Fairy Lady), a 'cloak and sword' play; El Medico de su Honra (The Physician of his own Honour); El Pintor de su Deshonra; and El Mayor Monstruo los Zelos (No Monster like Jealousy), trancalica of passion. But in the tragcdies of passion. But in the opinion of many critics his sacred plays, Autos Sacramentales (6 vols.), contain his hest work. His collected plays were first published at Madrid in 1689, and later editions have been issued there in 1848-50 and 1882. The hest edition of the Autor is the best edition of the Autos is that issued at Madrid in 1759-60. There is a good German translation by Lorinser (1882) and English translations of different plays by Denis MacCarthy (1853-73), Edward Fitzgerald (1853 at seq.), Archbishop Trench (1856), and N. Maccoll (1888). For critical works on Calderon see the works of Arch-bishop Trench and Miss Hassell (in the Foreign Classics Series), in English, and of Schack, Schmidt, Fastenrath, etc., in German. Calderón, Philip Hermogenes (1833-

98), an Anglo-French artist, born at Potiters, of Spanish parentage. He studied in Paris under Picot, and in London. He exhibited at the Royal Academy from 1853, and at the Paris exhibitions of 1867 and 1878. He was elected an Associate of the Hoyali that name in Kansas; a co. in Kon-Academy in 1864, Academician in tucky; a parish in Louisiana; a vil. 1867, and Keeper in 1887. His sub-iects were chicily historical, his most important works being "The Re-nunciation of St. Elizabeth of Hun-sary, 1891; 'Her Most High, Noble, 1788; joined the Madras Engin-and Phissant Grace, 1866 (gold medal 1867); 'The Gaoler's Daughter,' and The Proposal.'

Calderon Sarsin Esthanes (1891) of Madras in 1816, and rese to the was elected an Associate of the Royal

Calderon Serafin Estébanez (1801-67), a Spanish writer, celebrated for his brilliant sketches of Andulasian scenes and manners, which he contributed to the Cartas Españolas, a weekly Madrid magazine. Canovas del Castillo, C.'s nephew, wrote his hiography, called *El Solitario y su Tiempo*, which he published with his writings in 1883.

Calderwood, David (1575-1650), a best general plays are: El Magico Presbyterian divine and eccles, historian, born at Dalkeith, Midlothian. He was educated at the Edinburgh He was educated at the Edinburgh University, and became minister of Crailing, Roxburghshire (1604). He opposed the designs of James VI. to introduce Episcopacy into Scotland, and was tried before the Scottish Parliament and banished. He resided in Holland from 1619-25, where he wrote extensively on controversial subjects, and on his return to Scotland collected material for his History of the Kirk of Scotland (1678). also wrote Altare Damascenum (1621), and took part in drawing up the Directory for Public Worship in Scotland. Consult the Life by T. Thomson prefixed to the *History*, printed by the Woodrow Society in 1842-5.

Calderwood, Henry (1829-97), a Scottish minister and philosopher, educated at the Edinburgh University and Theological Hall of the United He was ap-Presbyterian Church. He was appointed examiner in philosophy, Glasgow, 1861; professor of moral philosophy, Edinburgh, 1868, and chairman of the first School Board of that city, 1873-7; anthor of Philosophy of the Infinite, 1854; Relations of Mind and Brain, 1879; Evolution and Man's Place in Nature, 1893. Consult the Life by his son (1900). Caldicott, Alired James (1842-97), an English musician. He was born Presbyterian Church.

an English musician. He was born at Worcester, where he became a chorister at the cathedral; studied music at Leipzig, and on his return music at Leipzig, and on his return to England was appointed organist to St. Stephen's, Worcester, 1865-82; professor at the Royal College of Music and Guildhall School of Music, 1890-2. He conducted at the Prince of Wales, 1889-90, and the Comedy Theatre, 1893; composed operettas and glees, including The Widow of Nain, 1893.

Caldwell. This name occurs in many parts of the U.S.A. There is a city of

parts of the U.S.A. There is a city of that name in Kansas; a co. in Ken-

of Madras in 1816, and rose to the rank of general in 1854.

Caldwell, Robert (1814-91). Anglican coadjutor bishop of Madras. born near Antim. He was sent out to India by the London Missionary Society, but joined the Church of England, and was consecrated bishop of Tinnevelly as coadjutor to the Nickan of Medical in 1977. bishop of Madras in 1877. He wrote a Comparative Grammar of the and to Ohan and Bauachunga. And Dravidian or S. Indian Family of gross receipts for the year 1910 were Languages, 1856; and assisted in a £4,621,807, and the working expenses £2,478,705. The authorised capital,

Caleh, the son of Jephunneh, of the tribe of Judah, and one of the spies appointed by Moses to explore the land of Canaan. C. and Joshna, the son of Nnn, were the only spies privileged to enter 'the land flowing with milk and honey,' for the other ten spies brought back an unfavourable report, and caused the children of Israel to rebel. They acknowledged that the land 'flowed with milk and honey,' hnt they declared that the eities were well protected and that the people were of giant-like pro-portions. C. and Joshua were anxious to fight their way to Canaan, with the result that they were spared to see the event accomplished. C. received Hehron and its district as his portion.

Caledonia, the ancient name of that part of Scotland lying N. of the Firths of Clyde and Forth. The term is still nsed in poctry for the whole of Scot-

Caledonia, New, see NEW CALE-DONIA.

Caledonian Canal, a chain of lakes, united by artificial canals, which stretch N.E. and N.W. across Scot-land, connecting the N. with the Irish Sea. It traverses the Great Glen of Alin, through the counties of Inverness and Argyll, from Moray Firth to Loch Eil. The lakes are Beauly, Ness, Oich, Lochy, Eil, and Linnhe. The total length of the capal is nearly 63 m, the capal is heavy 63 m, the capal is nearly 63 m, the capal is nearly 63 m. canal is nearly 62 m., the canals heing 23 m. long. The work of cutting these channels was hegun in 1803, under the supervision of Telford. The canal was opened for navigation in 1823, but the work was not completed till 1847. The average depth of the artificial channels is 17 ft., breadth at the surface heing 120 ft., and at the bottom 50 ft. The total cost of construction was £1,311,270. The canal enables vessels to avoid the dangerons ronte via Pentland Firth and the Hehrides, and is chiefly used by fishing cruft and tourist steamers.

Caledonian Railway. The company was formed in 1845, amalgamated and absorbed the Scottish Central and Scottish North-Eastern railways,

Languages, 1856; and assisted by East Tamil translation of the Prayer Book, #2,478,705. The authorised captures, 1842-72; and the Bible, 1858-69. See dividend 34 per cent.

Calembour, or Calembourg, a play upon words, based upon the difference in meaning of words pronounced alike, in great favour among the French wits of the 18th century. The name is said to he derived from an ahhot of Kahlenherg, an amusing personage, or a teller of amnsing anecdotes, in old German tales, or possibly from a count of Kalenherg, who was notorious for his amusing blunders in speaking French at the court of Louis XV.

Calenberg, a dist., including the tn. of Hanover, lying in the S.E. of the prov. of Hanover; formerly a principality in the Duchy of Brunswick. The name is taken from a castle near Schulenherg. The district is watered by the Rs. Weser and

is watered by the Rs. Weser and Leine, and has an area of 1050 sq. m. Calendar (from Lat. Calends, or Kalends), a means of distributing time with respect to its natural divisions in periods for the purposes of evil life. The most obvious and most natural of all divisions was that of the day, a period marked out hy the diurnal revolution of the earth on its axis, and the alternation of light and darkness. The solar year which completes the circle of the seasons was the largest division. Whilst the period from the new moon to new moon marked out the month. The ancient Egyptian year consisted of twelve months of 30 days, together with five supplementary days. Calenlating their year in this way they lost one complete day in every four years, so that in the course of time they caused a complete revolution of the caused a complete revolution of the seasons. The Greeks divided their month of 30 days in three equal divisions, a method which revolutionary France at a later date tried to follow. The Roman days of the month was calculated backwards from three fixed periods. The Calends, the Nones, and the Ides. The Calends was always the fixed days of the month was always the first day of the month, the nones always the ninth day hefore the Ides, and the Ides in the middle of the month either in the 13th or 15th. The method of calculation was was formed in 1845, amalganated latter and scottish North-Eastern railways, together with a number of small lines which served towns N. of Perth in 1865-66, and ohtained possession of the Forth and Clyde Canal and the Monkland Canal in 1867. The total length of line is 1080\frac{1}{4} m. The main lines run from Carlisle to Aherdeen via Stirling and Perth, Edinhurgh to Glasgow, Greenock, and Gourock.

ended with Dccember. This, how-ever, only allowed for 304 days, and no known arrangement seems to bave been made for the remaining days. Under Numa two additional months were added to the C., one, January, at the beginning of the year, the other, February, at the end. Ultimately this was changed so that the two additional months fell at the beginning of the year. All the months consisted of 29 and 30 days alternately, so that the year now consisted of 354 days, which was increased to 355, from the superstitious belief of the luck of odd numbers. Still the year was over ten days short of its correct period, and an additional month was intercalated in February every two years. This month, which consisted alternately of 22 and 23 days, made the year one day too long, and additional means had to be adopted to correct this mistako. The length of the inter-calated month does not appear to have been regulated by any fixed principle, with the result that it came to be a weapon of some effect in the hands of the pontiffs with whom the regulation of the C. rested. They curtailed the year in order to spite their enemies, they longtboned it in order to benefit their friends. By the time that Cæsar became the dictator of Rome they had reduced the C. to chaos, and one of his first steps was to attempt, successfully within limits, the reform of the C. By the year 46 B.C. there was a difference of three months between the civil Roman year and With the the astronomical year. and with the help of Sosigenes, an astronomer from Alexandria, Cæsar fixed the average length of the year at 3654 days. Every fourth year was to bave 366 days, the ordinary years containing only 365. The civil year was to be regulated by the sun, the intercalary month was abolished, and in order that the days of the year should be properly restored 67 days were inserted in the current year, which consisted of 445 days, the last year of the era of confusion.

The first year of the Julian C. was 46 B.C., or 708 A.U.C. The number of days in the months of the Julian C. wero 30 and 31 alternately, with the exception of February, which was to have, in ordinary years, 29 days, and in leap years 30. This order was only upset in the time of Augustus, who named the eighth month of the year after himself, and in order that it. after himself, and in order that it should have the same number of days

that of the Romans. Originally, it | February, and decreed that in future would seem, the Roman C. as ascribed Fehruary should in ordinary years to Romulus, consisted only of ten have 28 days, and in leap years 29, months, which began with March and In order also that three months of ended with Dccember. This, how- 31 days should not come together, he decreed the alteration of the number of days of the four last months of the year as follows: September, 30; October, 31; November, 30; December, 31. They had previously been: September, 31; October, 30; November, 31; December, 30, The pontiffs, who still bad charge of the C., made the mistake of allowing one leap year every three years, instead of every This mistake was discovered and corrected during the reign of Augustus, who ordered the intercalating of the additional day to dropped until the error had been corrected. The Julian C., although a vast improvement on the older method of calculating the year, yet made the year some 11 minutes 14 seconds too long. Gradually this came to be recognised, and by the 16th century the C. was some ten days wrong. Already was some ten days wrong. Arready ideas had been put forward for its correction. At the Council of Nicea, the vernal equinox, which fell on the 25th of March in the year 46 B.C., fell on the 21st. Efforts had been made by astronomers to correct the fault, but it was not until Popo Gregory XIII. took up the matter that the fault was corrected. By that time it had been made obvious that the error amounted to three days in 400 years. Gregory issued a bull by which the ten days, which represented the difference between the date of the equinox in 325 and in 1582, were annulled, and Oct. 5th was recognised as the In order also that the fault should not again occur, it was or-dained that the centurial years should not be recognised as leap years, save where they were divisible by 400. Thus 1600 was a leap year, 1700, 1800, and 1900 were common years, and 2000 will be a leap year. This method of calculating the year was called the Gregorian C., new style. It was promulgated by a bull, and found immediate acceptance in Spain, Portugal, and parts of Italy. adopted the Gregorian C. in the same year. Naturally enough, the proposal of the Catholic Church did not find immediate acceptance in the Protestant countries. Scotland adopted the change in 1600, making also Jan. I the beginning of the year. The greater number of the German states adopted the new style about the end of the 17th century. England, held back to a large extent by vulgar and ignorant prejndice, did not adopt the new style until 1752. For a long time she had probably found it inconas the soventh month, named after she had probably found it incontbe great Julius, took one day from venient to calculate her chronology

without considerable ontery from the mob, who went about crying for the restoration of their eleven days. The Greek Church and the states belonging to that church still calculate hy means of the old method, and are now ahout 13 days hehind the rest of Europe in their chronology.

calendar. - The Jewish vear consists of 12 or 13 months. according as to whether the year is ordinary or emholismic. The year is lunisolar, and the date is calculated hack to the creation, which is computed as having taken place 3760 years and 3 months before the heginning of our Christian era. The ordinary year has only 354 days, but the embolismic 384; the embolismic year is obtained by the intercalation of a month of 29 days, called Veadar. This intercalated month occurs seven times in a cycle of nineteen years, and readjusts the Jewish year with the solar year. The day is held to hepi with the sunset, but in reality the day with the sunset, but in reality the day begins always at 6 p.m. and continues for the successive 24 hours. The hour is divided into 1080 equal parts, to he as follows: Vendémiaire, Brucalled halequein, each of which heleg is equal to 3½ seconds. The Jewish month consists of 29 days, 12 hours, 44 minutes, 3½ seconds. The names of the Jewish months are Tishri, hour the Jewish months are Tishri, kisley, Tehet, Sehat, Adar (Veadar in embolismic years), Nisan, Veadar in embolismic years), Nisan, C. was adopted in 1806, by a decree of the months has 30 or 29 days, alternatively. The Jewish New Year's laternatively. The Jewish laternatively laternatively. The Jewish laternatively laternatively. The Jewish laternatively laternative tween Sept. 5 and Oct. 5. In 1912 the 1st Tishri fell on Sept. 12, the Jewish year heing A.M. 5673.

The Mohammedan calendar.—The era of the East, or the era of the Hejira, is dated from the first day of the month preceding the flight of Mohammed from Mecca to Medina. The era therefore began on July 16, 622. The year is purely lnnar, and composed of twelve lunar months, which contain 30 and 29 days respec-

hy means of a system long given up years. The Mohammedan year hegins by Western Europe and also anti- in the month called Muharram, which quated. The Calendar (New Style) corresponds with Dec. 11 of the year Act was passed in 1750, and the dif- 1912, and is the beginning of the 1331 det was passed in 1750, and the difference, which amounted to eleven days, was rectified by calling Sept. 2 Sept. 14, 1752. The first day of the year was also changed from March 25 rear was also changed from March 25 land 1. The Bill was not passed Shawell, Dulkadda, Dulheggia. The Shawell, Dulkaada, Dulheggia. The month Ramadán is observed by all Moslems as the month of abstinence.

The Revolutionary calendar.—The Revolutionaries, flushed with success, decreed in the National Convention of 1793 that the year of the Christian era should no longer he observed as the civil year, but that a new era. dating from the commencement of the republic, should he established. Accordingly, the date Sept. 22, 1792, was fixed as the first day of the new era of freedom. The model they chose to establish themselves on was essentially Grecian. The year was to consist of twelve months of 30 days. There were to he five complementary days which were to he celebrated as holidays, and were dedicated to Virtue, Genius, Labour, Opinion, and Rewards. Every fourth year was to have another complementary day, which was to be called Revolution Day. The period of four years was to be called a Franciade, and the months were to be equally divided into three

upon paper, linen, and cotton. The term is a corruption of 'cylindering, having reference to the usual method of passing the material between re-volving cylinders, usually of steel or hydraulically compressed paper, under high pressure. The principles are illustrated by the domestic iron and mangle.

Calends, or Kalends, a term used in the Roman computation of time. The composed of twelve lunar months, which contain 30 and 29 days respectively. The years are divided into exceptles of thirty years, nineteen of which are ordinary and eleven of which are ordinary and eleven of which contain one extra day added to the last month of the year. Obviously, with such a system the were numbered as the fourth, third, months are not kept in any way to etc., day before the Nones; those between the Course, and those after the seasons in the course of about 32. Ides as before the Cs. of the following C. fell upon the first day of each

month. inclusive, i.e. in the last case both the day itself and the following C. were included. The proverbial phrase Ad Kalendas Grocas is equivalent to never,' as the Greek calendar had no Calends.

Calendula, a genus of plants of the order Composite, common to the Mediterranean. C. officinalis is well known in England as the pot-marigold, Mary-bud, or golds, and is a very hardy garden plant. C. arrensis. the field marigold, grows profusely in vineyards of the Rhine.

Calenius, Walter (d. 1151), an archdeacon of Oxford, from 1115 to 1138. The name C. was given to him by John Bale, it being an adjective formed from Calena, Oxford. According to Geoffrey of Monmouth, this Walter brought from Brittany the Breton or Welsh original which Geoffrey professed to translate in his History of

the Kings of Britain.
Calenture (from Sp. calentura), temporary delirium of fever to which sailors are prone in hot climates. The nature of the disease is somewhat obscure, but brought on through exposure to the sun's rays.

Calepino, Ambrogio (1435-1511), an Italian lexicographer, b. at Bergama, and became an Augustine monk. His whole life was spent in the compilaof which

Reggio in published

by the Aldi between 1542 and 1592. Calf, see Cows.

Calgary, the chief port of Canada, in čí

Bc lin

It is a trading-centre of a ranching and agricultural district, and large shipments of cattle, sheep, horses, wheat, etc., are regularly made. Its chief industries are browing, tanning, leather, and biseuit-making, and it of the contains $_{
m the}$ workshops Canadian-Pacific Railroad. C. is an important station of the Hudson Bay Company and of the Royal North-west Mounted Police and the Fifteenth Light Horse. Pop. (estimated 1906) 17,000.

Calhoun, John Caldwell (1782-1850), an American statesman, born in Abbeville co, S. Carolina, of Scottish-Irish parentage. He graduated at Yale in 1804, and then entered the legal profession. In 1811 he represented his native state in the congress, and strongly supported measures which led to the declaration of war with England (1812-15). As Secre-tary of War in Monroe's cabinet

The reckoning was always president of the United States, in i.e. in the last case both the 1825-29 and 1829-32. In 1829 he showed that his political views were undergoing a change, and in 1831, in his Address to the People of South Carolina, he definitely severed his connection with President Jackson, by setting forth his theory of state rights as opposed to federal rule. He retired from the vice-presidency and sat in the senate from 1832 till 1843, when he became Secretary of State under Tyler. C. strongly opposed we with Mexico (1846-47) and championed the slave-holding states (1848), honestly believing slavery to be a blessing to master and slave alike. He died at Washington. For his life, consult R. S. Jenkins, 1851; and R. K. Cralle, in the collected edition of his works (1853-55); for his political and social views, and for the history of his time, consult the life by Von Holst, 1882. His Correspondence was published by J. F. Jameson in 1900. Cali, a tn. of Colombia, in the dept.

of Cauca. It is situated on the Rio C., near its junction with the Rio Cauca, at an elevation of 3100 ft. It is an important commercial town, and contains the fine Ionic church of San Francisco. Pop. about 16,000. Caliban: 1. The 'freekled whelp of Sycorax, the hag, the savage and deformed slave of Precence in Sheke.

deformed slave of Prospero in Shake-speare's play, The Tempest He is described by Coleridge as 'all earth, descrined by Coleringe as 'all earth, all condensed and gross in feelings and images.' The symbol of a missing link between brute and man. 2. A play by Ernest Renan, published in 1878, which takes up the story of this creature from the point where Shake speare left it. 3 The name under which Robert Buchanan contributed several poems to the Sneedger in 1867. several poems to the Spectator in 1867.

Calibration, a term which was originally applied to the measurement of the borc or 'calibre' of a cannon, an accurate knowledge of which was essential. Passing through the meaning of measurement of the hore of any tube it has now reached the meaning of the comparison of the readings of any instrument with what it should ind ins is

fie rea ost

not so much to graduate the scale so as to give very accurate readings, but to make the seale roughly accurate and then attach a list of corrections. As an illustration of the methods used we may take the case of some elcetrical instruments. An ammeter measuring continuous current can be calibrated by comparison with (1817), he did valuable scrvice to his tangent of galvanometer of which we country in reorganising the war department; and twice became vice- of deflection is proportional to the

thermometers. In the process of mannfacture the tube is scratched at points reached by the mercury at the freezing and boiling points of water. The ferent parts of the tube. Calibre, see GUNS.

Calibre

This gives a means, cylinder by a colour-box in which a current flowing. This gives a means, cylinder by a colour-box in which a of comparing the divisions of the small roller revolves up to its axis, at anmeter scale among themselves, but the same time pressing against the if the values recorded are to be come copper cylinder. The colour doctor, parcd with actual current values, the a thin steel blade fitting against the constant of the galvanometer must be 'surface of the copper cylinder before found by means of a voltameter or contact with the cloth, removes similar instrument. Similarly, an excess of colouring matter; while ammeter measuring alternating cur-another steel hlade called the 'lint rents may he calibrated by means of doctor' is similarly fitted after the an electrodynamometer, the deflec-printing-cylinder leaves the cloth to tions of which are proportional to the remove all impurities communicated square of the current. The principles by the cloth. The adjustment of all of C. are hest illustrated in the case the rollers must he as perfect as pos-of the ordinary mercury in glass sible, so that each colour printed fits accurately in its proper place. There are many 'styles,' or methods, of colour printing, some involving the printing of mordants first and dycing distance hetween these marks is the whole material after, some which divided into a hundred parts, each involve the oxidation of the colour-part called a degree. But this assumes material used, and some which rematerial used, and some which require the application of stream at that the hore of the capillary the is quire the application of stream at constant throughout its length, which considerable pressure to fix the is never true. The process of C. con-colours. Mordants may be definedlas eists in observing the length of a substances which have an affinity for detached column of mercury at difthe fabric on the one hand and an affinity for the colouring material on the other; they thus serve to hold the Calico-finding, the process of incolouring matter in place. They vary pressing on cotton or other textiles in composition according to the purcertain designs in colours. The art pose they have to serve, and it may was known to the Egyptians, even be noted that the same colour-as far as the effect of certain snh-imaterial may give different colours stances called 'mordants' in making; with different mordants. In the the colours permanent in the fabric. 'madder style,' for example, a cloth the seals known in quite ancient may be printed with four or more the colours permanent in the fabric. 'madder style,' for example, a cloth it was also known in quite ancient may be printed with four or more times in India, whence, through the different mordants in the printing agency of the Dutch East India Company, the trade was brought into ling chamber, the pieces are put Holland. It was introduced into through a process called 'ageing,' London in 1676. Glasgow in 1738, and This consists of subjecting them to into Liverpool in 1764. The essential the influence of heat and moisture, by thick certain preserver. into Liverpool in 1764. The essential the influence of heat and moisture, hy principles of the methods have rewishing the same, but the developthed which certain necessary physical and mained the same, but the developthed chemical changes in the printed ment of the use of machinery and mordants are brought about. The the extension of chemical knowledge next process, called 'dunging,' conhave made the operations less tedious sists of passing the cloth through a and more varied in their colourthous confinition which removes any uneffects. There are two processes of combined mordant or thickening printing, block-printing and machinetagent. A solution of cows' dung was printing. In the former, a wooden formerly used for this process, but block is engraved with the design by many effective substitutes have been hand, exceptionally fine work some discovered. The material after being times being done on copper plates left thoroughly washed is ready times being done on copper plates let; thoroughly washed is ready for dyeinto the wood. The design for maing, a process usually occupying one chine-printing is first of all engraved or two hours. The material then has upon a soft steel roller, which is hard to be 'cleared,' that is, the colour has upon a soft steel roller, which is hard-to be 'cleared,' that is, the colour has ened and made to impress the design in relief on a second steel cylinder. Moreon to those portions not in relief on a second steel cylinder. Moreon to those portions not in relief on a second steel cylinder. Moreon mordanted. This is done by means of This cylinder is hardened in its turn is hot soap solution and a chloring and finally transfers the original description, all colours not 'fixed' being sign to a copper roller. Each colour thus removed. In colouring with into the printed demands a separate digo or aniline black, it is customary roller, so that machines carrying as to print a 'resist,' that is, a substance many as twenty copper cylinders which prevents the incorporation of the colour is mounted so as to press, the coloured portion will then ultigaging a large central roller, around mately he that portion not treated with the colour is supplied to each copper some colouring substances either to ne colour is supplied to each copper; some colouring substances either to

fix them in the fabrie by more mo- peaks over 10,000 ft. high. chanical blowing through, or to effect | these is Mt. Whitney (14.898 ft.), the a desired chemical change, or, when highest in the United States (excludalbumen is used as a fixing agent, to bring about the required congulation.

Madras, 84 m. N. tho first Enropear e in 1486, and ٦. trade, but declined under

rule, and only revived af pation by the English in : given its name to calleo. Calidasa, or Kalidasa, a

of the post-Vedle period literature. The dates of extremely nncertain. He seems to have lived during the reign of Vikramáditya of Ujjain, but as there were several monarchs of that name from 57 B.C. to A.D. 1050, this does not assign any very definite limits. He has been traditionally assigned to the first century B.C., but modern scholarship tends to place him considerably later. His most famous works are his dramas, especially Sakuntala, which, when first introduced to Europe

through the translation of Sir William

remarkable for isolated passages, and differing so greatly that it seems doubtful if they can be credited to the same author; and several lyries, the best, Meghaduta (The Cloud Messenger), being very beautiful. Nalodaya, a poetical romanee, translated by Rev. W. Yates, 1844, is also ascribed te Calidasa.

Calif, see CALIPH. California, a Pacific state of the California, a Pacific state of the United States of America, bounded N. by Oregon, E. by Nevada and Arizona, S. by Lower C. (Mexico), and W. by the Pacific Ocean. It lies between parallels 32° 28′ and 42° N. lat. It is popularly known as the Golden State, and in the W. It is often spoken of as 'the Coast.' Thought the Coast. variation It gives of peak and cañon, valley and hill, is one of its most Two great The Sierra conspicuous features. mountain ranges exist.

Chief of ing Alaska). Among the Sierra Nevada ranges are the rifts of the Yosemite, King's, and Tuolomne, cañons famous throughout the world for their magwas nifleent seenery. Along the coast lies by the series of disconnected ranges in grouped as the Coast Range, longer It but lower than the Sierra Nevada. had been a great centro of native Between these two ranges lies the

eramento and eh two rivers rancisco Bay. tributary the . part of the most of the S. the Eel, ıre

Since C. extends over 700 m. from N. to S., the elimatle conditions are varied. The northern district is very rainy, particularly in the winter, and the N.W. is damp and foggy. The S., however, is warm and semi-tropical, and has thus become a favourite winter resort for invalids. The rainfall is generally low, and the nights are generally cool throughout. On the whole, the elimate is one of the best in the world. The flora of C. is very Jones in 1789, was received with distinct from that of the more easterly

· its characteristic proamed the mammoth 2, and the Sequoia species of redwood partleularly in the ts supply abundance

all the agricultural poems, Raghuvansa, translated into products of the temperate and semi-English by P. de Lacy Johnstone, tropical regionsflourish well. Its rango 1902; and Kumara Sambhava, only of climate is shown by its varieties of climate is shown by its varieties of flora and fauna. Of animals, the most characteristic are the grizzly and black bears, the puma, the hig-liorn sheep, and various varieties of The northern rivers supply good stores of salmon, and coast fishing is generally important. geology of the state is fairly simple. The general basis is fairly recent, the Sierra Nevada being chiefly composed of Triassic and Jurassic beds; the Coast Ranges are chiefly Cretaceous and Tertiary. The axis of the Sierra Nevada is prohably Archean, and the elovation of the Coast Range occurred towards the end of the Miocenoperiod. The mineral resources are great, and since the discovery of gold in 1848 often spoken of as 'the Coast.' The the output has been enormous. Other vast mountain system of C., with the minerals are silver, iron, coal. borax, rock-salt, quicksliver, and copper. The gold is now principally obtained from the quartz mines. For long, C. was the chlef gold-producing state, Nevada runs almost parallel with the but it is now surpassed by Colorado. coast along the E. boundary of the Tho mining of precious stenes is instate. Its average breadth is about a dozen increase in the number of small owners

tural progress. At first wheat-raising was the principal industry, and C.'s produce of this cereal exceeded that of any other state. Semi-tropical fruits of all kinds, barley, etc., are now in general use. The growth of manufacturing in the state is comparatively recent, its isolation, tho high price of labour, and the scarcity of fuel all being disadvantageous. Manufactures of railway, foundry, and machine-shop products, the lumber and timber industries, sugar, molasses, leather, etc., are now well established. Railway facilities are now good, except in the N. The Southern Pacific and the Union Pacific join at Ogden and Utah, while the former also connects with the Railway and Navigation Company at Oregon. C. has retained the old form of government. governor is chosen for four years. The senate consists of forty members, ehosen for four years, and the house of representatives is chosen for two years. The state sends eight representatives to the national congress. Chief towns and pops. (1900): San Francisco, 342,782; Los Angeles, 102,479; Oakland, 66,960; Sacramento, 29,282; San José, 21,500; San Diego, 17,700; Stockton, 17,506, etc. Area of state 156,092 sq. m. Pop. (1910) 2,377,549.

California, Gulf of, an arm of the Pacific which separates the Lower Cortes, after its first explorer. Both shores are bordered by high mountains and the coast-line is very varied. At its northern extremity it receives the Colorado, and various other streams also run into it. On its coasts are the ports of San José, La

Paz, Mazatlan, and Guaymas.
California, Lower, a peninsula about 750 m. long and averaging 75 m. in breadth, which forms a territory of the Mexican republie, from the rest of which it is separated by the Gulf of California. It is healthy and dry, but the surface is too mountainous to be of much use for agriculture. Mining of copper, silver, and gold is carried on to a certain extent, and the fisheries are fairly productive. Capital, La Paz. Pop. about 4300. Area abont 60,000 sq. m. Caligula, Caius Cæsar Augustus

Germanicus (A.D. 37-41), was born nt Actium in the year A.D. 12, the son of Germanieus and Agrippina. He was brought up among the soldiers at the camp, and thus became their

favourite, receiving from nicknamo of C., from the

has given an impetus to C.'s agricul- | boots (caligulæ) he used to wear. He was adopted as his grandson hy Tiberius, and on the death of that monarch in A.D. 37 it was found that the empire was left to C. and the true grandson of Tiberius. C.'s appointment was hailed with enthusiasm, and the senate and people soon gave him sole power. For a time be gave no sign of earrying out Tiberius's prohpecy that he was educated 'for the destruction of the Roman people. He removed taxes, and scattered reindemnities liberally. wards and Then came an illness induced by his evil life, and on recovery from this he seemed possessed by a fury. slaughtered his own relatives, and filled Rome with blood. His extortions, prodigality, and eruelty were unspeakable. No form of debauch was unknown to him, and he lived in ineestuous relations with his sisters. His madness at last led him to proelaim lilmself a god, and to demand divine honours. Finally, the ettizens deelded to rid themselves of the tyrant, and he was assassinated.

cyrant, and ne was assassinated.
Caligus is the typical genus of the erustacean family Caligide, or fishlice. The species are parasitic on fish, to which they adhere by the hooked posterior antennee, but they can also swim rapidly. C. rapax preys on seatrout. C. Mülleri on eod, C. lacustris on pike and carp.
Calipres, an instrument recembling

Calipers, an instrument resembling n compass with bent legs, and used for Californian peninsula from the rest of measuring the diameters of various Mexico. Length is about 700 m., and objects. It is used for finding the breadth varies from 50 to 130 m. It correct measurement of hores and was originally known as the Sea of shafts. There are different kinds of Cortes, after its first explorer. Both Cs. For example, the micrometer C. is used for minute measurements and is applied to such instruments as the

telescope and microscope.

Caliph, Calipbat (from the Arabian word Kalifa, meaning 'successor'), the title given to the civil and religious head of the Mohammedan states. Each caliph is supposed to be a direct lineal descendant of the great prophet Mohammed. There is a tradition which has been wrongfully attributed to him, that there can only be one ealigh at a time, and should another one be set up, he must be put to death, 'for he is a rebel.' After Mohammed died this title was first borne by a man named Abu-Bekr, who was elected Mohammed's 'representative.' The history of these rulers can be divided into three divisions: (a) The first four caliphs, who immediately succeeded Mohammed; (b) the Ommiade calipbs; and (c) the Abbaside callpbs. Ommiade With regard to Abu-Bekr, the first of be eleeted at Moham-

here was much trouble between the people of Medina, who wished to set up a mem-ber of their house, and the emigrants, who set up an opposition claim, and who set up an opposition claim, and who were successful, as they had Their seat was Damascus, Many when house into Media. brought into Medine

to terroriso over th Mcdina. Abu-Bekr and father-in-law of ...

dealing with the trouble of the times. He organised an attack on the Greeks, but he himself remained behind to defend Medina. When his army came back, he attacked the rebel party; cleven small flying columns were enough to put down the rebellion. The war that had been started by Mohammed against the border countries was an excellent way of making the religion popular to Arabs, as timo was given for looting, and much wealth was gained thereby. In the war that was carried on against tho Persians, the Moslems were unsuccessful at first, but at last, at the battle of Kadessia, the Persians were beaten, and they had to give up part of their land and limit themselves to Iran proper. The Moslems under Abu-Bekr had soon annexed all the lands bordering on Arabia, and to these they added Egypt. The natives of the lands that had been conquered soon adapted thomselves to the new Their nationality had been rule. broken long ago, and they were more Arabian than anything else, and with regard to religion they at least would in 717. meet with toleration from Islam. Abu-Bekr died on Aug. 22, 634, and had only been in power a short time. He was succeeded by Omar, during whose reign there were further tremendous conquests. Omar was a great plunderer, but he paid for his fault by being murdered by a Kufan workman in a mosque in Medina in November 644. Othman succeeded Omar in the caliphat; he was a very weak ruler, and all the government of Islam fell into the hands of the Koreish nobility. He was a man who continually made fair promises but never kept his word. This fact but never kept his word. exasperated the people, and after an outrageous case of breaking his promise ho was besieged in his own] house, where he defended himself for a time, but at last the mob gained an entrance, and put him to death. He After was then eighty years of age. much controversy Ali was elected as successor to Othman. All had no right to be elected, but he gained his position by ambition and a succession by position by ambition and sheer desire for power. His reign was not at all a peaceful one, nor an enjoyable one for him, and he was murdered also, in January 661. After these four caliphs passed dynasty arose.

battles that took place He was essentially a d he was as well a re-

ho followed closely the he proved himself quite capable of precepts of Islam. None of his successors, however, had either of these Moawiya's son, Yezid I. virtues. (679-83), succeeded. He led a rebellion into Irak, but before he got there the governor of Kufa had crushed the cause, and on the field of Kerbela the governor Obeidullah was slain, but Yezid spared his kinsman. Yezid was followed by Moawiya II. (683), and then camo Merwan I., who was murdered in 685. Abdulmalik next ruled, and his reign lasted till 705, and a yery turbulent reign it proved to be. He gave the caliphat a coinage of its own, and also gave his patronage to scholars, and urged them to translate Persian works into Arabic. In the year 692 he levied a tax called the Flaratch, or capitation tax, on all Christian men. This was a means of getting money with which to support his wars. The north action to support

I. (705-15), w

man himself. extended, going as far as to include Spain on the one side and to the mouth of the Indus on the other. After him came Sulciman I., who died Then came a good man, Omar II., but ho was poisoned in 720. Yezid II. next succeeded, and died in 724. Hisham died in 743. Walid II. was slain in a rebellion in 744. Yezid III. died also in 744, Ibrahim was dethroned by Merwan II., who was governor of Armenia (745). This was the end of the rule of the Ommiades. They were not popular, and at last three brothers, descendants of Abbas, an unclo of the prophet, rose in rebellion. The whole land was thrown into a civil war between the white Ommiades and the black Abbasides. Merwan was pursued into Egypt, and killed in battle in 750. Abdallah, an uncle of the claimants, sent an invitation for a feast to eighty Ommades in Damascus, and when they were assembled he slew them all. Thus canto the Abbasides into power. Abul Abbas (750-54) was the first caliph He was under the Abbaside régime. called also Saffah, meaning 'shedder of his enemics' blood.' He was followed by Abu Jaafar Almanser, his brother (754-75). Ho it was who made Bagdad the seat of empire. He left behind him a sum of money of something like £30,000,000, but his son, Almahdi (775-85), and his grandaway the Ommiade son, Albadi (785-86), spent it all vain. Moawiya (661-680) gloriously. Albadi's brother, Haroun

al Raschid ('the Just') came next, toleration, and his advocacy of this (786-809). He is best known from the hrought him into some suspicion. His fact of having given his patronage to chief work is an Epitome theologic all orthodox and literary men. He moralis, 1634. persecuted the Christians, and made Call, Sir John (1732-1801), a milieight separate attacks on the Greek tary engineer. He was appointed all orthodox and literary men. ne persecuted the Christians, and made eight separate attacks on the Greek tary engineer. He was appointed empire in Asia Minor. His three chief engineer to the East India sons fought for supremacy instead of Company in 1750, and served at Fort Scapting their father's division of 'St. David in 1751 and again in 1752. the empire. Amir was defeated and slain in 813, and his brother Almamun succeeded him (813-33). Mutassen followed his brother (833-42), but with him departed the glory of the caliphat under the Ahhasides. He was afraid of his own subjects, so he left Bagdad and went to Samarrah, and got together under his leadership ahout 50,000 Turks. These men, ahout 50,000 Turks. These men, heing so much steadier, they soon had all the power in their hands. Ever after the caliphs held power and life by the sanction of the Turks.

Calippus, Greek astronomer, fl. at the beginning of the 4th century B.C. He rectified the lunar cycle, giving it a duration of sixty-three years, the period being known as the Calippic

cycle.

Calixtus I. (218-222), pope and successor of Zephyrinus. His life is known chiefly from the accounts of Hippolytus, a schismatical adversary of his. This writer says that C. was a

over the investiture question and the schism of the anti-pope. He commenced negotiations on the former question with the Emperor Henry V., and after some trouble, matters were settled at the Concordat of Worms. He descated the anti-pope,

Gregory VIII.

Calixtus III. (1455-58), Alfonso de Borga, a Spaniard, also pope. He preached a crusade against the Turks, preached a cusada who had just taken Constantinopic who had just taken Constantinopic (1453). His chief work was the vindication of the memory of Joan of Are. The same title, C. III., was also including an Episcopal church, as well borne by one of the anti-popes, whom I rederick Barbarossa, the emperor, set up in 1168 in opposition to Alexander III. The name of each of Alexander III. The name of each of the popes is often spelt Callistus.

Calivus. Georgius, properly Callisen San Lorenzo. It has a floating-dock, The Calivus Cali

57. He was present at the siege of Pondicherry (1761), and returned to England in 1769. He represented Callington in parliament (1784-90), and was created haronet in 1791.

Calla, a genus of Araceæ with the single species, C. palustris, hog arum, found in marshes of N. Europe. The leaves are cordate, not sagiltate, and the hermaphrodite flowers, horne every two years, are enveloped in a heantiful white spathe. Richardia athiopica, the Egyptian lily, or lily of the Nile, was formerly included in

this genus.

Callahan, James Morton (b. 1864) professor of history and political science at W. Virginia University. He was educated at the Normal and Commercial schools, and University of Indiana (graduating 1894-95), at Chicago University and Johns Hopkins He was teacher at the University. Normal Pedagogical Institute, Hope, Indiana, 1888-90; director of the Burean of Historical Research, 1900-2; of his. This writer says that C. was a Indiana, 1888-90; qurector of the slave, denounced as a Christian by the Burean of Historical Research, 1900-2; Jews, and late associate of Pope lead of the Department of History Zephyrinus. Hippolytus accused and Politics, W. Virginia University, him of favouring the Papripassian 1902-10. C. has held numerous other views and of lax discipline. The cemeters of the Via Appia hears his name. I fame by his researches. Among his Calixtus II. (119-24), pope, pre-works are: Cuba and International viously Archbishop of Vienne, in Relations; The Monroe Doctrine and France. He ruled during the struggles Inter-American Relations; Diplomatic Aver the investiture question and the History of the Southern Confederacy.

History of the Southern Confederacy.
Callan, a tn. of Ireland, Kilkenny,
S m. S.W. of Kilkenny; pop. about 2000.

Callander, a market tn. and bor. of Perthshire Scotland, situated on the R. Teith, about 16 m. N.W. of Stirling. It is in close proximity to the Trossaehs, and is mentioned as the gate of the Highlands.' Being thus romantically situated, it has become

(1586-1656), a German Protestant San Lorenzo. It has a floating-doek, theologian, was horn at Medclhye in and fine harhour-walls. It has gas-Holstein. In 1613 he became pro-works, sugar-refineries, iron-works, fessor of theology at Helmstedt, and etc., and its chief exports are ininerals, was engaged in keen controversy with sugar, hides, wool, etc. The present the Roman Catholics. His study of town dates only from 1746, when the the first centuries inclined him to old city was destroyed by a great earthquake. It has suffered consider- Callianiridee, a family of the order

Callaway, Charles (b. 1838), English geologistand writer, educated at Chesbunt College, London. He retired bralata are two examples from the Nonconformist ministry for educational work and geological research. Since 1876 C. has studied the Archæan rocks of Shropshire, Anglesey, the Scottish Highlands, Donegal, and elsewhere. He established two Precambrian systems-Uriconian and Longmyndian. The Geological Society awarded him their Murchison medal, 1906. In this year C. founded the Cheltenham Ethicai Society. Among his works are: The Precambrian Rocks of Shropshire; King David of Israel, a Study in the Evolution of Ethics, 1905.

Evolution of Ethics, 1905.

Callaway, Henry (1817-90), an Anglican missionary bishop. He studied surgery at St. Bartholomew's Hospital; M.D. Aberdeen, 1853; joined the S.P.G. in 1854, and subsequently became bishop of St. John's, Kaffraria, in 1873. His chief work was The Religious System of the Amazulu, 1868-70. Consuit Miss Benham, Henry Callaway, 1896.

Callcott, Sir Augustus Wall (1779-1844). English landscape painter.

1844), English landscape painter, was born at Kensington. He early studied music, and was for soveral years a chorister at Westminster Abbey. In 1799 he determined to dcvote himself on tirely to painting, and oxhibited for the first time at the Royal Academy. In 1806 ho became A.R.A., and in 1810 received his R.A. In 1837 he received knighthood. His best works are landscapes, and these arc remarkable for their clearness and

delicacy. But his largest work is 'Raphael and the Fornarina.' Calcott, John Wali (1766-1821), English composer, brother of the preceding, was also born at Kensing ton, and for some years studied medicine. He then gave himself to the study of music, and in 1800 became doctor of music at Oxford. In 1806 he pub. a Musical Grammar, but insanity prevented him from pursuing further studies.

Callernish, or Callanish, a dist. and vil. on Lewis Is., Ross-shire, Scotland, on the E. coast of Loch Roag. 16 m. W. of Stornoway. Its four Druidical circles are among the finest in Britain. Pop. about 500.

Callianassa, a genus of decaped crustaceans, and is the type of the family Callianassidæ. They are noted for the inequality in size and form of the chelæ, or claws. C. subterranea, the commonest species, is found at Naples and on French and English

Callianira, the typical genus of the structive to fir-trees.

ably from bombardments by Spanish Tentaculata and phylum Ccelente-and Chilian navics. Pop. (1896) 48,118. rata. The body is gelatinous and provided with two pairs of wing-shaped appendages. C. triploplera and C.

> Callias, the name of a powerful Athenian family which produced many distinguished citizens. The best known of these, surnamed Κακοπλουτος (beginning of 5th century B.C.), was reckoned as the richest Athenian of his time. He is said to have slain a Persian at Marathon who revealed to him the biding-place of a vast treasure. Legend also tells that in 469 B.c. he was one of the ambassadors sent by the Athenians to Artaxerxes, and that he arranged the peace of Callias.

Callicera, the generic name of certain dipterous insects of the family Syrphide. They are stontish flies with large heads and eyes, the body is silky, and the antennæ form eiongated and slightly curved ciubs.

Callichroma, a genus of Colcoptera of the family Cerambycidee, or longi-corns. It differs from allied beetles in having the maxillary palpi smaller than the labial, and shorter than the terminal lobe of the maxille. It emits

a very agreeable odour.
Callichthys, a genus of malacopterygious fishes belonging to the Siluridæ, or cat-fish family. The body and head are protected by large, hard, scaly piates, only the snout and under surface being naked, and barbels depend from the mouth. species frequent rivers and streams in hot climates, and when the water dries up they perform journeys over-land in quest of new ponds.

Callicrates, a Greek architect who, with Ictinus, planned the celebrated Parthenon, which is the magnificent temple erected in honour of the virgin goddess Athene in the year 438 B.C. It is the finest example of Greek architecture still extant.

Callicratidas, a Spartan general, was sent in the year 406 B.c. to take Lysander's place as commandant of the fleet, towards the end of the He pursued Peloponnesian war. Conon, and defeated him in the harbour of Mitylenc. Conon took refinge here, and held out till the Athenians sent a large force to his rclief. C. was then defeated and slain in the naval battle of Arginusæ. C. was greatly hampered in his efforts for efficiency, by the incapacity of his predecessors.

Callidium, a genus of colcopterous insects of the Cerambycidæ, or longi-corns. C. bagulus is a British species, about three-quarters of an inch long, of dull black colour, and is very de-

which consists of about twenty species the gemmeous dragonet, is another from Africa and Asia. C. Palasia British species, and is yellow. yields a nutritious gum, which is sapphire, and violet in hue. obtained from the root, and a Calliope, the first of the nine muses heverage is made from the fruit.

who fl. in the 5th century B.c. He rally depicted with a tahlet and a was possibly a disciple of Calamis, pencil and the great characteristic of his work was over-minuteness. borer for drilling marble. other decorations furnished by him

golden lamp. a school at Alexandria, where he luxury and assumption of divine had Aristophanes of Byzantium and origin. The Life of Alexander once Apollonius of Rhodes among his dis-ascribed to him is certainly spurious. aponomus of knodes among his disinguished pupils. He was a favourite
of both Ptolemy Philadelphus and of
his successor, Ptolemy Euergetes. He
became chief librarian of the Alexto have been a pupil of Papinian.
andrian library under the former, and
held this office till his death. In his
library, (Tablets) he gives a catalogue of the books in the library, with
a short criticism and account of the
writers. This laid the foundation of lof
dictyledgency representations.

a common example.

hole near the nape of the neck, the thickest in the centre.
ventral fins are under the throat, the Callot, Jacques (1593-1635), painter fin rays of mature males are produced and engraver, was born at Nancy in into filaments, and the body is Lorraine. At the age of twelve he smooth and without scales. C. draco, ran away from home, intending to the skulpin, is about 10 in. long, and seek Rome and devote himself to art

Calligonum, a genus of Polygonacea, is brown and white in colour; C. lyra,

verage is made from the fruit, and the mother of Orphens. She is Callimachus, an Athenian sculptor, the muse of epic poetry, and is gene-

Callirrhoe, the name of a famous He is fountain in Athens, and formed one supposed to have invented the of the chief water supplies to that Corinthian capital, and also to have town. According to Greek legend C. been the first to employ the running was the daughter of Achelous, the

Among river god. hy him: Callisthenes (c. 360-328 B.C.) for the Erechtheum was a famous Olynthus, Greek philosopher historian, kinsman and pupil Callimachus (c. 310 -c. 240 B.C.), a Aristotle, accompanied Alexander Greek grammarian, critic, and poet, the Great into Asia. He was put to born at Cyrene of the distinguished death on account of his remonfamily of the Battiadæ. He founded strances against Alexander's oriental

writers. This laid the foundation of of dicotyledonous plants, consisting the critical study of Greek. He is said of about twenty-five species, all conto have written some 800 works, but tained in the single genus Callurche. to have written some \$00 works, but of these only six hymns and sixty. They are nearly all floating plants, four epigrams remain entire. His in the translation of Catullus. Some fragments of his Hecale have been found, but his 'Airac is quite lost. It dealt with the foundation of cites, religious customs, etc. The best religious customs, etc. The best religious customs, etc. The best religious customs of hymns and epigrams are those of Meineke (1861) and Wilamovitz (1882).

Callimornha. a zenus of lepidoo-

Wilamowitz (1882).

Callimorpha, a genus of lepidoptera of the family Arctiidæ, and includes several beautiful night-flying into a horny snbstance. This thickened into a horny snbstance. This thickened into a horny snbstance. This thickened in is is due to pressure, friction, or wings large, somewhat triangular, chemical irritation continued for a and the hinder margins are rounded. They are more free. C. Jacobaco, the pink underwing, is company example. are especially conspicuous in camels Callington, a tn. of Cornwall, Eng., and on the inner side of the legs of land, 10 m. from Launceston. Has horses. In the human being C., or tin, copper, and arsenic mines. Pop. corns. are generally situated on any about 2000. Callionymus, the technical name of also appear on any part of the inthe acanthopterygious fishes known tegument and are often formed on popularly as dragonets, a genus of the soles of the feet. In appearance Gobiidæ, or goby family. The gill the skin takes on a yellowish colour, openings are reduced to a single small is smooth and horn-like, and is

the suite of a nobleman. He was then found, however, and taken home. Once again ho escaped and was hrought back, and then his parents gave way, and sent him to Rome with the Duke of Lorraine's amhasador. For some time he painted in Florence, but quitted this town to return to his prince. He visited the Low Countries to gather the material for his 'Siege of Breda,' and later Louis XIII. of France engaged him to engrave other war pictures, among which is the 'Siege of La Rochelle.' When asked by his royal patron to depict the taking of Nancy, he declared that he would rather cut off his thumb. C., the great painter of manners, has left a vast number of engravings. He was rapid and impatient in his work, and all his engravings are marked by vigour and animation. His 'Gipsy Halt' and 'Miseries of War' are particularly remarkable in this respect. Calluna vulgaris constitutes in

Itself a genus of Ericacem, and Is known as ling or heather; it flourishes on every heath of Britain, and is common in N. America and Europe. The plant is a low-tufted shrub, with sessile, closely - imbricated leaves, flowers varying in colour from deep red to white, and fruit a sopticidal capsule.

Callus, the substance given off round the fractured ends of a bone forming a new hone which unites the breakage. A similar process takes place in plants when a cutting is taken or a branch pruned. When a plant is damaged a succulent tissue exudes and covers up the cut surface. In cuttings this C. produces the roots of the young plants. Calman, William Thomas (b. 1871),

was lecturer and demonstrator in zoology in University Collego, Dundee, 1895-1903. He has been assistant In the zoology department of the British Museum since 1904, and a member of the Board of Studies in memper of the Board of Scales in Zoology, University of London, 1906-9. Among his works are: The Life of Crustacea, 1911; articles on 'Crus-tacea' in 11th edition of the Encyclo-nedia Britannica, and various scientific papers.

nonk, lcarned

He joined a band of gipsies, and later | Senones. His chief work is the Histoire ecclésiastique et civile de la Lorrainc, 1728, characterised by great learning and research. His Diction-naire historique critique et chronologique de la Bible, 4 vols., 1722-28, is one of the first works of its kind. Another important production is the Another important production is the Commendaire sur tous les livres de l'Ancien et du Nouveau Testament, 23 vols., 1707-16. For further particulars, see the Vie de Dom Calmet by Dom Fangé, 1763.

Calmucks, see KALMUCKS.
Calne, mrkt. tn. of Wiltshire, England, 6 m. E.S.E. of Chippenham. It has a legge become verifier and weter and

has a large hacon-curing industry and manufactures of flour and paper. In 978, at a synod held here, the floor gave way, precipitating all but St. Dunstan to the ground.

Calochortus, a genus of American Liliaceæ, nearly allied to the fritillary and tulip, and the fruit is a septicidal capsule. The plants are abundant in California, but do not grow well in England unless their roots are carefully protected from frost and excessive water, and can be exposed freely to light and air when growing. Č. albus is a white and C. lilacinus a

lilac-coloured species.

Calomarde, Don Francisco (1775-1842), a Spanish statesman, horn in Lower Aragon. Ho studied law and settled in Madrid. He married the He married the daughter of a physician named Godoy, and obtained a government position. After many changes in his life, ho became minister of grace and justice in 1823. His ministry lasted ten years, and it was marked by singular tyranny and crucity. His ruling passion was selfish ambition and greed for power, and these caused his over-throw. When King Ferdinand lay C. sought out the king's brother, Don Carlos, whom he thought would succeed, but his scheme was frustrated by Princess Louisa of Naples, who obtained his arrest. however, bribed tho soldiers to let him escape, and he spent his remaining years in France. He died at Toulouso. Calomel, the popular and medical

name for mercurous chloride, or subchloride of mercury, Hg₂Cl₂. This substance is found in nature as horn mercury or horn quicksliver, a sectile tetragonal mineral of hardness 1 to 2 and specific gravity 6.48. C. is pre-pared in the laboratory by adding Calmar, see Kalmar.

[Calmar, see Kalmar.

[Calmar.

[afterwards adding common salt and was borr near subliming the mixture. Any corro-Commercy (Lorraine). He entered the Bonedictine order in 1689. In renowed by washing with hot water. A more convenient method is to add Leopold at Nancy, and ten years later was transferred to the abhey of cury bichloride) and subliming. C. is

treated with lime-water, potash, soda, or ammonia. When heated it vaporlses without charring and sublimes again unaltered. It is the most widely used preparation of mercury in medicine, producing its effects without In small much local inflammation. doses it is used to relieve congestion of any part of the allmentary system, as it gently stimulates secretion, and thus helps to 'clear the system' in increased where functional activity is required to counteract the effects of over-feeding, unaccustomed lack of exercise, etc. In larger doses it is used by adults as a purgative, and generally as an alterative, as it is often efficacious in restoring the normal activity of any organ after it has been deranged through any cause. C. is not so poisonous as the more soluble mercuric salts, but the absorption of the mercury in great quantity, as in the syphilis cure, may give rise to poisoning characterised by a coppery taste in the mouth, loosening of tho teeth, and in the severer cases, hy emaclation, necrosis of the jaws, and neuritis.

Calonne, Charles Alexandre de (1734-1802), a French statesman, was horn at Douay. He entered the legal profession, and after having filled various offices, becamo in 1783 Comptroller-General of the Treasury. He found the deficit already large, and in a short time he had managed to increase it much more by horrowing in all directions. Finding at last that it was impossible to continue, he persuaded Louis XVI. to call an assembly of the 'notables,' to whom he proposed that their privileges should be abolished. This was notwell received, and he was compelled to resign. He spent some years in England, hut returned to die in France.

Calophyllum, a genus of trees belonging to the Guttifere, is noted for
the beautiful colour of its young
leaves. The species grow in tropical
countries, chiefly of the Old World.
C. Inophyllum, a nativo of the East
Indies, attains a height of 100 ft., and
has large leaves like those of a waterlily, snow-white fragrant flowers, and
a nut which yields an oil useful for
burning in lamps. C. tacamahaca
yields the resin which is known as
tacamahac. C. Calaba, the Calahatree, grows in the Caribbeo Is., and Is
noted for its white, sweet-scented
flowers, green fruit with an oily seed,
and tlmber which is used in making
staves and cask-headings.

Calopus, a genus of coleopterous lnsect of the family Edemeride. The antenne are long and fillform, with the second joint much sborter than

a dense, white, odourless powder, in- the third. The larvæ live in old wood, soluble in water, it turns black when the heetle among flowers.

Calorie, unit quantity of heat. The 'small calorie' is the amount of heat required to raise the temperature of 1 gramme of water 1°C. As the specific heat of water varies slightly with its temperature, the temperature is usually specified, as from 0° to 1°, or from 15° to 16°. The latter temperature has the advantage that the C. so measured is almost equal to the 'mean calorie' obtained hy dividing the amount of heat required to raise 1 gramme of water from 0° to 100° hy one hundred. The 'great C. is the amount of heat required to raise 1 kilogram of water 1° C. It is therefore equal to 1000 small Cs., and is approximately equivalent to 3°968 British thermal units.

British thermal units.
Calorimeter (Fr. calorimetre, from Lat. ealor, heat, and metrum, dorived from Gk. μέτρον, measure), an apparatus used to measure quantities of heat developed or absorbed in different chemical and physical different chemical and physical changes, e.g. heat developed by frietion, combustion, etc.; or absorbed as hy melting lee. Cs. vary in form according to the purpose they serve. The simplest variety, a plain metal vessel, is that used to determine the specific heat of metals. In the ice C. the heat is measured by the amount of ice which it melts. More complex forms are used to determine the specific heat of gases. In these oxperiments many contrivances, such as vacuum jackets, non-conducting air jackets are used to prevent loss of heat, which is the greatest difficulty to overcome. Lavoisier and Lapiace invented an ice-C. which has now been superseded by the delicate mercury C. of Faure and Silhermann. See HEAT, SPECIFIC AND LATENT, and THERMO-CHEMISTRY.

Calosoma, a genus of colcopterous insects, is included in the family Carahidm. They greatly resemble the genus Carabus, and C. sycophanta is one of the largest and most beautiful species of its family.

Calotropis, a genus of Asslepladaceæ common to the tropics of Asia and Africa. C. gigantea, the madar, mudar, wara, or how-string hemp, grows in sandy places in many/parts of India, and is noted for its milky julee which is used incedicinally in the East; for the fine made from the hark and the floss ohtained from the seeds, C. procera, is known as French cotton or French jasmine.

Calottists, a satirical society founded by Aymon and Torsac, two of Louis XIV.'shodyguard, in 1702. It derived its name from 'calottc,' the small cap that the priests wore to hide their tonsure. In the middle of the 18th century it was converted into a connected by a bridge.

of the Revolution.

Calotype, a process of photography invented in 1841 by Fox Talbot, whereby paper sensitised with silver oxide, exposed in a camera and developed with gallie acid, resulted in the image being a negative, i.e. reversed as regards light and shade.

Calovius, Abraham (1612-86), a German Lutheran divine, who was born on April 16, at Mohrungen in He studied at Konigsberg. Prussia. and in 1650 he gained the position of professor of theology at Wittenberg. where he later on became general mining superintendent and primarius. He mineral was the most ardent upholder of by is a Luthezun doctrines during the 17th King R century. He strennously fought Calib against Catholies, Calvinists, and Socinians, and he was particularly opposed to the reconciliation policy, or syncretism, of Georg Calixtus. As a polemical writer he has few rivals. His principal work was Systema locorum theologicorum, written be-tween the years 1655-77, and which runs into 12 vols. His book, Historia Superelistica, written in 1682, was suppressed.

She has been immortalised by Shakespeare through his representation of her anxiety and superstitions dread at the time of the conspiracy against her husband by Brutus and his colleagues at the ides of March.

Calpurnius, Titus Julius, Latin poet, probably lived in Nero sreign. Chiefly remembered for his Ecloques. which he assumes the name of Corydon. He ultimately found a patron in Melibœus, whose identity is not fixed—possibly Seneca. C. is in no way original, but 'a skilful literary

craftsman.

Caltabellota, a tn. in the prov. of fortress. Pop. 6500.

Caltagirone, a tn. and an episcopal see in Catania in Sicily. It is a well-with a stone bowl, and is ornamented built town, and situated on the tops of two hills (2015 ft.), and these are Calvados, in Normandy, a maritime

military institution, but it was finally residential place for the nobility of crushed out of existence at the time the Island, and is famous for its schools and also for its pottery. Pop.

45,000.

Caltanisetta: 1. A prov. of Italy in the middle of Sicily. It rises to a height of 3000 ft. in the N., and is drained by the Salso and other small rivers. Its chief products are sulphur. wheat, wine, sait, olives, and other fruits. Area 1263 sq. m. Pop. 35,000. 2. Capital of the above prov. It is a bishop's see, and stands on a lofty plateau almost in the centre of the island, and is 43 m. N.E. of Girgenti. It has a cathedral, technical and schools, sulphur mines. He mineral springs, and potteries. Near r of by is a Norman monastery built by King Roger in 1153. Pop. 43,000. ught Caltha, a genns of Rammenlacce.

which flourishes in temperate countries and is represented in Britain by one or two species. The flowers are radially symmetrical, have no petals, but usually five petaloid stamens, and the fruit is an eterio of follieles. C. palustris, the marsh-markedd, or king-cup, is common in meadows and by the side of wet ditches in Britain.

Caltrop (A.-S. calcutrippy), a small tron ball covered with projecting spikes. They were much used in the Caloyers, Greek monks: a very spikes. They were much used in the strict religious order divided into warfare of the middle ages. When an three runks, and following the rule enemy was expected, the ground over of St. Basil. Bishops, patriarchs, and the decign as are chosen from this erder, strewn with these balls. The result because the monte are of high scenarious and disastrous to the horses are rule. because the monks are of high social was disastrons to the horses as well rank for the most part. Many as to the barefoote diffarty. Cs. monasteries exist, the most celebrated were also used by the colonists in being that of Mount Shal. Calpe, a city in India, 51 m. N.W. ef Cavepore: cotton and paper manufs. Seized by the British in 1806. Salar also applied to plants that eath Calpurnia, the last wife of Julius Casar. He married her in 59 E.C. the name of the Potamageton because She has been immetralical by Sheb. it entangles swimmers.

Calumba Root, or Radix Calumba, is obtained from the climbing herbaccous plant, Jalcorhiza palmala, a species of Menispermaceae occurring in tropical Africa. The odonr is faintly aromatic, the taste bitter and slightly aerid, and the bitter active principle is known as calumbine. It is used medicinally as a tenic and

stomachic.

Calumet, a tobacco pipe known among American Indians as 'the peace pipe.' This was always handed round at an assembly of warriors at the conclusion of peace negotiations. Girzenti in Sicily, near the site of the In these days it is offered to strangers ancient Tricala, and situated 9 m. as a mark of hospitality. Dire offence N.E. of Sciacca. Originally a Saracen would be taken should they decline to smoke it. The pipe has a stem of wood two feet and a half in length,

of the Spanisb Armada, which was shipwreeked off a dangerous ledge of rocks in 1588. The coast is dangerous on account of the rocks, and light-houses are placed at the rouths of the Rs. Touques, Dives, Orne, and Vire. The region is mountainous with extensive fertile valleys. The pasturage is good, and there is an abundant supply of wheat and agric. produce. Cider is produced in great quantities from the orehards in the Auge district. There are six arrondissements, named respectively after the chief towns, Caen. Vire, Bayeux, Lisieux, Falaise, and Pont L'Eveque. The principal ports are Caen, Trou-

ville, and Honfleur, and there is an excellent fishing industry.

Calvary. The word C. or Calvaria is a translation of the Hebrew word Golgotha, a skull, and it is conjectured by some authorities that this name was given to the spot on which our Lord was erueified because of the skull-like appearance of the mountain ridge; others attribute its name to the fact that this place was the scene of public executions. Mt. Calvary is situated outside the city of Jerusalem and lies to the N.W. Roman Catholics bave commemorated this event in some foreign eities by giving a representation in sculpture or stone of the scene on C. For example, outside the church of St. Jacques at Antwerp there is a representation of three crosses with the figures of Christ and the two thieves hanging on them, whilst stationed round the eroses is a group of figures who represent those who witnessed the crucifixion.

Calverley, Charles Stuart (1831 84), poet, is best remembered for his famous examination paper on The Pickvick Papers. A sound classical scholar, he composed Translations into English and Latin, 1866; and Theocritus translated into English and Theocritis translated into English Verse, 1869: but his best known work will be found in the volumes, Verses and Translations, 1862, and Fly Leaves, 1872. A brilliant man, but unhappily suffering from illealth, be wrote only short pieces, some of which bayo seemed him his high reputation for humour. As a parodist he was delightful, and there are some who assert that he is the best writer of parodies in verse in the language. At the lowest estimate, indeed, he is to be compared with the Smiths, whose Rejected Addresses bave the drawback, at least the drawback in the case of parodies, of being more elaborate.

Calveley, Sir Hugh (d. 1393), a soldier. He fought in Brittany in the war of 1341-64, during which he was

dept. in the N. of France, and called imprisoned at Josselin. He took part by that name after one of the vessels in the battle of Auray (1364), which ended the war. C. was a freelance and fought for whichever leader pleased him. In 1367 he left Henry of Trastamaro and served the Black Prince, and fought under Sir John Chandos at the battle of Navarrete (1367). Ho became deputy governor of Calais (1377-79) and of Brest (1380). He is said to have been one of the founders of a college in Rome (1380), and in 1385 founded one at Bunbury in Cheshire.

Calvert, Denis (1555-1619), a famous Flemisb painter, who studied first in Antwerp; thence he went to Bologna and Rome; after studying Raphael's works, and assisting Lorenzo Sab-batini with paintings for the ducal palace, he returned to Bologna, where he founded a school which Domeniehino and Guido attended.

Calvert, Frederick Crace (1819-73), an English chemist who was born in London, but all his seientifie education he received in France. His celebrity was gained from his researches into the industrial side of chemistry. tanning, calieo printing and Ironpuddling. He was the first person to manufacture pure carbolic acid, and he was the founder of extensive works in Manchester for the production of same. It may also be said that he made the first use of it as a dislinfectant. He also published a book called *Dyeing and Calico-Printing*.

Calvert, George, the first Lord Reltimore on Fuglish statemen and

Baltimore, an English statesman and founder of the state of Maryland, in U.S.A. For some time he was seeretary of state to James I., but being a Roman Catholic was forced to resign. Ho retained the king's favour, however, and was granted land in N. America. He died in 1632, before the charter was completed, but it passed to his son Ceeil.

Calvert, Thomas (1775-1840), a theologian, born at Preston. He becamo tutor of St. John's, Cambridge, camo tutor of St. John's, Cambridge,
1814; Norrisian professor of divinity, 1815-24; Lady Margaret's
preacher, 1819-24. He was appointed
king's preacher at Whitehall, and in
1822 was given the wardenship of the
collegiate church at Manchester. C.
published numerous sermons. See
Ralne's Lives of the Wardens of Manchester, 1885.

Calvi, a fort, a tn., and a harbour on the N.W. coast of Corsica, and 45 m. N. of Ajaccio. The citadel was captured by the English in 1794 at the time Nelson lost his eye. Some trade in wine, oll, and fruits is carried on, and it is a fishing centre. Pop. 2000.

Calvin, John (1509-64), was born at

His father, Gerard Chauvin, was notary apostolic and fiscal procureur of the county of Noyon, and intended his son for the church. In 1521 he received a chapiaincy in the cathedral of Noyon, and a few years later he was made curé of Marteville. During this time he was engaged in study at Paris in the colleges of Marche and Montaign. About this time he reto Orleans to study law. Here lie found Pierre Olivetau, a kinsman of his, who was then busy translating some of the Scriptnres, and who Induced the young student to study them with him. Thence, C. went to Bourges, where he came under the Influence of the famous Greek scholar, Melchlor Wolmar, who further in-fluenced him in the direction of the reformed falth, though his conversion does not yet seem to have been definite. In 1533 he returned to Poris, where he began to speak freely against the Roman Church and its faith, and the retired first to Saintonge and then to Angoulème. Persecution was now raging so hotiy that C., having given np ail his preferments, left the counnp all his preferments, left the country and settled in Basel, whence, in 1536, issued his epoch-making work, the Christiana Religionis Institutio, with its famous preface addressed to Francis I. of France, in which the exile exhorts him to support the Reformation. This work is the first attempt at a logical and complete definition and vindication of Protestantism. C. then made a short risk to Italy, where the new faith had made some headway, and here he was well received by Renée, Duchess of Ferrara. He now paid a Duchess of Ferrara. He now paid a last visit to France, where he sold the paternal estates, and set ont to settle in Switzerland. In 1536 he was passing through Geneva, at which city Farel was striving hard to establish the reformed faith. This friend entreated him to remain and help in the work, but this he was unwilling to do till Farel threatened him with the curse of God if he should neglect this clear duty. Then C. threw him-elf into the work with tremendous energy. A Confession of Falth was drawn up and approved by the people, and strict morality was enforced. But a reaction soon came against the strict rule of Farel and C., and the party known as the Libertines gained the upper hand. C. left the city and settled at Strasburg in 1539, where he married idelette do Bure, a widow, by whom he had one Bure, a widow, by whom he had one which are usually aromatic and have son, who died in childhood. Mean-square stems; the flowers have while, Geneva was finding that even numerous sepaloid and petaloid C.'s strict_rule was better than no perlanth leaves, five to numerous

Noyon in Picardy. His name is the rule, and in 1540 he was summoned Latinised form of Chanyin or Cauvin. to return. He was at first unwilling to do this, for his life in Strasburg was an easy one. However, he con-sidered that in Geneva duty lay, and in Sept. 1541 he re-entered the city. Here he devoted himself for the rest of his life to the task of ordering Geneva and the Protestant theology. He established the college of Pastors, and did his best to onforce a rigid Montaign. About this time he re-morality. He also aided the reformed solved not to take orders, and went churches in all countries, being in correspondence with England, France, the Netherlands, Poland, etc. In 1559 he founded the academy of Geneva. His activity was prodigious till his death in 1564. During the first fonrteen years of his pastorate he was engaged in conflict with the Libertines. who were again his enemies. To the same period belong his three great controversies, with Sebastian Castello, with Jerome Bolsec, and with Michael Servetus. The last is the most memorable. Servetus was a heretie whose views are fully ex-plained in his Resitutio Christianismi. He was arrested by the Roman Church in France, and here C. did his best to secure his condemnation. Servetus escaped and came to Geneva whence C. had promised that he should not escape alive. After a scurrilous verbal confilet, the unfortunate man was tried and sentenced to be burnt. Though the great refermer did his ntmost to get the manner of death altered, the sentence was carried out.

Calvinism is distinguished particularly by its dogma of Predestination. This says that God has chosen certain souls for salvation, others for damnation, and that these decrees are un-alterable. To the elect sufficient grace is sure to be given, and also the gift of perseverance. The West-minster Confession is the most comminister Contession is the most complete exposition of the Caivinistic faith. C. Is established in the Reformed churches, in opposition to the Lutheran, of France, Scotland, Holiand, etc. It entered England, and gave high to the Puritans and the numerous dissenting hodies. Thence also It reached America.

Calvinistic Methodists, see METHOD-

Calw, n in. in Wilstein see, Ger-many, best in test extensive test or trade with NCL (glands) opinion and weaving industries.

Calyeanthaceæ, a small natural order of dicotyledonons plants, containing two genera in China and N. America. The species are shrubs, eterio of achenes as fruit. The genus Calycanthus, or Carolina allspice, is represented by three species; C. floridus, common Carolina alispice, is a fragrant plant with chocolatecoloured flowers, and its bark is used as a substituto for cinnamon. genus Chimonanthus, or Japan allspice, has two species; C. fragrans has lemon-coloured flowers which appear at a different season than the leaves.

Calveeraceæ, a small order of dicotyledons closely allied to the Composite, from which they differ in having their anthers only half syngcuesious, their seeds being albuminous and pendulous. The species occur

in South America.

Calycifloræ, the name given by De Candolle to the series of plants in which the sepals and petals are separate, the petals are perigynous or epigynous and the stamens are perigynous. The chief orders include the Leguminosse. Hosacca Sect. fragaceæ, Myrtaceæ, Cucurbitaceæ, and Umbellifere.

Calycophyllum, a small genus of Rublaccae which contains only three species, natives of the West Indies and S. America. They are small, smooth trees with corymbs of flowers: in some cases the sepals are pink, and

give the tree the colour of a rose. Calydon and Calydonian Boar, an anet. tn. in Ætolia which, according to Pliny, was situated 71 m. from the sea on the R. Euenus. It was sup-posed to have been founded by Caly-Calydonian boar, sent by Artemis to lay waste the fields, is said to have sepals serve as a protective structure been hunted here i mportant parts of the other heroes. The are sometimes said t

Castro of Cartaga. euit of over two miles, with one large gate and six little ones. Ruins of terrace walls outside the town are thought to indicate the site where the temple of Artemis Sophira stood.

Calymene, a genns of fossil trilo-bites, common in the Silurian rocks of Europe and N. America. It is fre-quently found in Wenlock limestone

in Great Britain.

Calymma, a genus of coelenterate of the order Tentaenlata and family The species, some of Calymnidæ. which are found near the equator in the South Scas, have strongly com-pressed and little elevated hodies, and are furnished with tentacles.

Calypso, daughter of Atlas, in-habited the island of Ogygia. Accord-ing to Homer, when Odysseus was wreeked on her isle, she treated him hospitably and promised him immorrality if he would marry her. detained him for seven years and bore monkshood, saccate in wallflower.

stamens, numerous carpels, and an him two sons, but finally the longing for home prevailed, and he left her to die of grief at his departure.

Calyptra (Gk. καλύπτειν, to conceal), the name given in botany to a hoodlike body connected with the organs of fructification. In the Musci. or mosses, it is formed from the upper half of the enlarged and ruptured archegonium, and is a membranous cap. In Pileanthus it is formed of united bracts, in Eucalyptus and Eudesmia it is a lid or operculum to the stamens, produced in the ono case by the consolidated sepals, in the other by the consolidated petals.

Calyptræa, the cup and sancer limpet, is a genus of gastropod molluse described by Lamarck. The species are numerous and widely diffused, and fossil species occur in the tertiary

strata.

Calystegia, a genus of temperate and sub-tropical Convolvulaceae, consisting of lactescent, glabrous, twin-ing or prostrate herbs, with solitary onc-flowered peduncles. C. sepium, the larger bindweed, which grows in British hedges, has two large bracteoles which invest the calyx, and is fertilised by a hawk-moth called Sphinz convolvuli. C. Soldanella, the sea-bindweed, is a native of European sea-coasts and some parts of Asia. The young stalks are sometimes plckled, and the juice of the plant is a cathartic.

Calyx, the term applied in botany to the external set of floral leaves, each of which is called a sepal and is don, the son of Ætolus. The famous usually green, but may be coloured. or petaloid, e.g. monkshood.

en coloured they attract

They have a cir-lone another, the C. is polysepalous, e.g. in buttercup; when united, it is gamosepalous, e.g. in primrose. When the C. is below the gyncecum, it is said to be inferior; when above, it is superior. If the sepals fall off before the flower opens, the C. is caducous, e.g. poppy; if they fall off after the flower has opened, it is decideous; if they remain until the fruit is ripe, it is persistent, e.g. violet. The C. is frequently quite inconspicuous and rudimentary, and in other cases It is represented by a pappus of hairs, e.g. dandclion; in the apple and pear It helps to form the fruit. In describing it fully, attention must be paid to the number of whorls, number of free sopals, or lobes of sepals, and to their shape, of which the terminology is the same as that of leaves. The terms used for the general form of the C. is the same as that for the corolla, e.g. She spurred, in nasturtium, galeate in

Cam, formerly called the Granta, more than one occasion on account is a river which rises in Essex, flows 40 m. N.W. and N.E. through Cambridgeshire, and flows into the Ouse, 31 in. S. of Ely. It is navigable to the town of Cambridge.

Cam, Diogo, a Portuguese navigator of the 15th century, who con-tinued the explorations of the African coast, begun by Prince Henry of Portugal. In 1484 he discovered the Congo, and afterwards explored the West African coast to 22° S. lat-

Camaldoleness, Camaldolites, also called Camaldulians, a strict religious order whose founder was Romauld, a Benedictine monk of the 11th century. The monks were divided into two classes, Cenobites and Eremites, and wore white garments. Their huts were built in the plain of Camaldoli, near Arezzo in the Apennines. As the order grew, so in time the collection of separate huts became grouped into a bandet of cells with an abbot presiding; one common place of worship was instituted. Both Guido Grandi and Pope Gregory XIII. belonged to this order.

Camargue, La, an Island in France, sltuated in the Delta of the Rhone. It covers an area of 150 sq. m. One third of its extent is marsh land, but on the other two-thirds wine and eercals are grown, and there is pasture land for cattle and sheep. If it were not for dikes that have been built it would be inundated. The mistral, a cold north wind, blows over this island, thereby making it healthler than it might otherwise be. Numbers of scabirds are to be found here.

Camarilla, a Spanish word originally denoting the small or audience chamber of the king, but it has now come to mean a court clique or group of favourites, who influence a pope or monarch in opposition to his official advisers and ministers.

Camarina, a tn. situated on the S. coast of Sleily. It was founded as a colony from Syracuse in 599 B.C., and twice the people of Gela recolonised It, namely, in 492 B.c. and in 164 B.c. It was destroyed four times, by the Syraeusans in 552 B.c., by the Carthaginians in 405 B.c., by the Romans in 258 B.c., and finally by the Saraeens in 853 A.D.

Cambacérès, Jean Jacques (1753-1824), an eminent French legist who lived in the timo of the French Revolution. He was appointed member of National Convention in 1792, but was strongly opposed to bringing the king to trial. After the fall of Robespierre, he was made president of the Convention and president of the Committee of Public Safety (1794). C. was suspect on

of his moderate views, and lost office for a time; appointed second consul under Napoleon, and subsequently created High Chancellor of the Empire, and Duke of Parma. He was partly instrumental in the compilation of the Code Napoléon. Upon restoration of Louis XVIII., he went into exile, but was recalled in 1818; he retired from office.

of Cambay.

The tn. is situated in the prov. of Bombay in Western India. and was ceded to England in 1803. It covers an area of 350 sq. m. ehief ---y, agates, and any ruins whic eat pros-declined perit owing to the state of navigation. The Gulf of C. is 80 m. long and 25 m. wide. It receives the waters of eight rivers, and this tends to generate

Cambay, and Gulf

quicksands, which make navigation dangerous. Pop. about 175,000. Camberwell Beauty (Vanessa Antiopa), a large and beautiful butterfly. rare in Britaln but common in Central and Southern Europe and N America. The wings are a deep purplish brown, with outer band of black and greyish-white or yellow border. The black band contains a row of large blue spots. In addition the two small wings have two small white spots. Formerly found occasionally at Camberwell, when latter

was a rural place.
Cambiasi, Luca (1527-85), a Genoese painter, b. at Moneglia in the Genoese At fifteen lie helped his fatber to paint subjects from Ovid's Melamorphoses on the front of a house in Genoa. He became a great friend of theartist Giambattista Castello, whose work closely resembled his own in In 1583 Philip II. comcharacter. In 1583 Philip II. com-missioned him to finish a series of frescoes begun by Castello in the Escurial. C. was very dexterous with his brush, and sometimes painted with one in each hand. His best works are at Genoa.

Cambium, a single layer of cells found between the primary wood and the bast of the vascular bundles in most dicotyledonous plants, which are then said to be open. Each cell has thin walls made of cellulose, and is rich in protoplasmic contents; in transverso section it appears foursided and flattened, and in longitudinal section it is clongated. By successive division of the single layer, the cambium gives rise to other layers which form secondary wood, secondary bast, and also secondary medullary rays, so that a caoibium-ring is formed internal to the bark. Corkcambium, or phellogen, is a layer of epidermal region and forms cork.

Cambodia, one of the provs. in French Indo-China. The name C. is European, and is derived from the Hindu Kambuja. Kambu was the name of the mythical founder of the Khmers, the anet. inhab. of C. constitutes a French protectorate, and is under the control of French jurisdiction, as well as a native

eir own ! of taxes. or the

administration of justice between natives. At the head of the government is the king, who is supported by a council of five ministers chosen from the class of mandarins. France is represented by a residentin-chief, who lives at the capital, Pnom-Penh, and presides over the ministerial council, having complete authority in the matter of foreign policy, the customs and exchequer. The Buddhist religion is most popular in C., although Brahmanism is still retained at the court. The Cambodians arc a superstitious racc, and the worship of spirits or local genii largely prevails.

Geography.—This large tract of country in South-eastern Asia is bounded on the E. by Annam, on the S.E. by Cochin-China, and on the S.W. by the Gulf of Siam. There are two marked features in C. which add to its geographical importance. These features are the R. Mekong and the large lake Tonlé-Sap. The lake serves as a reservoir for receiving the over-flow waters of the Mekong, which be-eomes greatly swollen by the rains and melted snow from the Tibetan range in the month of June. At this period the lake, which is fed by an arm of the R. Mekong called the Bras du Lac, attains to a depth of 45 to 48 ft., overflows its banks, and inundates the country round for over an area of 770 sq. m. Conversely, during the dry season, when there is a shrinkage of the waters of the Mekong, tho Tonle-Sap Lake also becomes greatly reduced in area, and its depth falls to an average of 5 ft. The whole of C. lies in the basin of the lower Mekong. which, entering this territory on the N., flows S. for some distance, then inclines S.W. as far as Pnom-Penh, where it spreads into a delta, and resumes a southerly course. Fishing forms the staple trade of C., for forms the stapic trade of C., for Tonlé-Sap supports a fishing population of over 30,000. The fish are caught by means of large nets at the end of the floods, and are either dried or fermented for nuoc-mam saucc. Next to fishing come the agricultural products, and here rice is dept. du Nord, situated some 32 m.

meristematic cells which arises in the largely grown in the low-lying districts. Other industries are also carried on, such as the growing of the tobacco plant, coffee, cotton, pepper, indigo, maize, and tea.

Climate.-Much the same as that of Cochin-China and varies with the monsoons. During the N.E. monsoon, which lasts from mid-October to mid-April, the weather is dry and warm, with a temp. ranging from 77° to 80° From mid-April onwards until October there is constant rain, and the temp. is considerably higher, sometimes reaching 95° F. Wild animals of all sorts abound, such as buffalo. the elephant, rhinoceros, tiger, panther, and leopard. Monkeys and rats are the plague of the district, as they destroy the crops and agricultural products.

The people.—C. consists of three or nr races. The majority are the four races. Cambodians themselves, whilst the rest are Annamese, Chinese, and Malays. Uncivilised tribes are met with in the thinly populated districts on the outskirts of the forests and The Camamong the mountains. bodian men are tall contrasted with the Annamese, whilst the women are short and thick set. They have darkbrown skins, flat faces, short noses, Although superand black hair. stitious and gloomy as a race, the Cambodlans are brave in action, and their favourite pastime is hunting. Polygamy is for the most part unknown except among the wealthy classes. Class distinction is represented by caste founded on bloodrelationship. The different castes and the mandarins are exempt from all taxation and all military service. Although Buddhism is the prevailing religion, there are many converts to Catholicism amongst the Annamese. There are ruins of many cities, palaces, and bridges near Lake Tonle Sap, which point to the prosperity of the Khmers or Cambodians in the period of the middle ages. The royal eity Angkor Vat still displays its mighty ruins. War against Thais or the inhabitants of Slam, together with internal revolts and feuds, have brought about the decadence of C. The invasion of the country under Europeans completed its final overthrow, and in 1863, after renewed hostilities with Siam and Annam. C. became a protectorate under French supervision in 1867. Camboge, see GAMBOGE.

from Lille. Chlef manufactures: cam. Switzerland, while Scottish C. Is an brie, lace, linen, thread, soap, and imitation of real C., in which tho linen leather. It is a picture que town, with is replaced by finely twisted cotton. heather. It is a picturesque town, with is replaced by linely wisted coulon-breed, irresults there is reseasing a. Cambridge, a municipal and parl for each incl. theather is archiefest bor, co. tn. of Cambridgeshire, 56 m. could prove and i prove of historical! N.E. of London by the Great Eastern interest, for it was a long time under: Railway, and 76 m. N.E. of Oxford, the rule of history. Its ancient name town lies in a level plain, on the was Camaracum. The famous League: southern edge of the fren country, of Carrotall bear in 1602. The girt and to the position have of C, was held here in 1508. The city and to its position here it probably fell into the hands of the revolution owes its existence, for the position of

prov. of Flanders, which now forms tomer of st. Benet's Church is one of the chief part of the dept. of Cambral; the finest pieces of Saxon work in the

Cambria, the Latin name of Wales, derived from Celtie Cymry or Kymry, and originally applied to both Wales and the Cymrie kingdom of Strath-

Cambrian Rocks, the name given by Professor Sedgewick to a stratified system of rocks occurring between the Silurian and Archean systems which is found in a high state of development in Wales (Cambria). A Roman Catholic Church of the Holy Sepulehre and the development in Wales (Cambria). A Roman Catholic Church of the Holy Sepulehre and the development in Wales (Cambria). A Roman Catholic Church of the Holy Sepulehre and the tween Sedgewick and Murchlson, a geologist who had been working contemporaneously with Sedgewick in another part of Wales, the latter church of the Holy Sepulehre and the English Martyrs may be also mentioned. Pop. 38,393.

Cambridge, a city and one of the thousette, U.S.A., on the Charles R. It almost forms a subury of Boston. It is divided into various sections: Old Cambridge, the seat of Harvard University, North Cambridge, Camfound in rocks of this system include bridge pert, and East Cambridge. The two last are the manufacturing districts.

Besides printing and city further in the cooks were formed by sedimentary deposition from water, although they probably never formed the bed of a deep ocean, since there is son of George III., born at Buckingmen evidence, such as the occur lam. the bed of a deep ocean, since there is son of George 111, born at Bucking-much evidence, such as the occur- ham (then Queen's) Palace, St. rence of ripple marks, to show that James's Part. He served in the canthe water was not of great depth. A palga of 1794-95, and was created noteworthy fact is that in the case of Duko of Cambridge in 1801, was the crustaceans some of the trilobites appointed field-marshal in 1813, and are apparently deficient in the organs, was vicery of Hunover troubles of vision. C. R. are recognised chiefly Cambridge, George William Fredk. of vision. C. R. are recognised chiefly

best Cs. are now manufactured in marked by a conservative spirit to-

destroyed. The bones of Foncion were starting point in crossing the Fensignominjously disturbed, but tribute from the Mildands. That its importwas paid to his memory in 1825, ance was early recognised is shown when a monument was creeted to by its retired. The ear probably him in the new cathedral. Cambresis, ancient division of the two item : n cross here, the country, and its importance in Norman times is well-known. The town is builtchiefly on the E. of the R. Cam, and its buildings are straggling and The name is generally irregular. elyde. The name also appears in the derived from Grantabyege or Granta-Cambrian mountains, Cumhria, and bridge, though the intermediate stages Cumherland. Cambrian Rocks, the name given the university, is not of great import-

the bed of a deep ocean, since there is son of George III., born at Buckingmuch evidence, such as the occur-ham (then Queen's) Palace, St.

or vision. C. R. are recognised chieffy the Wales, Scotland, Ireland, Central Europe, and N. America, the strata first cousin of Queen Victoria, born varying in depth from 3000 to over in Hanover, the only son of George 30,000 ft. The strata consists mostly in Hanover, the only son of George of cellists, slates, and limestones, and irels. He led a division of Guards and Is usually unconformable on the older Hichlanders at the battle of the Alma rocks of the pre-Cambrian poriod. (1854), and held a command at Cambridge, the name given to fine Balselava and Inkerman. He was Cambrie, the name given to fine Balaclava and Inkerman. He was white linen fabrics, originally manufactured at Cambral in the French position of commander-n-chief from department of Nord. Some of the 1856 to 1895. His administration was

warm interest in the wolfare of the John's, privato soldier. Ho married an actress, Miss Farebrother, their children bearing the name of Fitz-George. See Military Life of H.R.H. George, Duke of Cambridge, by W. Verner

and E. D. Parker (1905). Cambridge, University of, is one of the oldest universities in Europe. Its origin is lost in antiquity, but fable has abundantly supplied the lack of bistorie documents. Laying these fables aside here, the university may various writs for the organisation Clark's and discipline of the students. Soc hostels were instituted, and th students began to live together : these, under principals. These con- J. W. Clark's Cambridge, new ed., tinued until the 15th and 16th 1907; Atkinson's Cambridge Described, centuries, by which time they were centuries, by which time they were 1897, etc.

all either abolished or merged in the colleges. The university is a corporate body, at the head of which is the schancellor, whose offices are frequently delegated to the vice-chandellor. The governing body is the scnate, which consists of the chancellor, vice-chancellor, doctors of divinity law medicine science (arr.) Undulations occur in the S. divinity, law, medicine, science, (q.v.). Undulations occur in the S., letters, and music, and masters of art, where the Gog-Magog Hills, S.E. of law, surgery, and law, surgery, and officers under the

senate, composed of sixteen persons, which submits all subjects to the senate and has a power of veto, is elected by the resident members of the senate, known as the 'electoral roll. The colleges are also corporations in themselves, and, except in general matters, such as the management of the examinations and of the university property, are independent of the univer ity. The head of the college generally holds the title of master, and the affairs of the college are managed by him and by a com-mittee of fellows. The scholars are termed undergraduates. These consist of pensioners, who pay full fees, receiving no emoluments from the college. The bulk of the undergraduates come under this head. Sizars re- was in the territory of the Iceni, and

since 1809, there have been special colleges under their respective mand the Wake held out against him names, viz.: Peterhouse, Clare, Pembroke, Gonville and Caius, Trinity prominent in the intestine structles Hall, Corpus Christi, King's, Queens', under Stephen, John, Henry III.,

wards innovations, together with a St. Catherine's, Jesus, Christ's, St. warm interest in the wolfare of the John's, Magdalene, Trinity, Emmanuel, Sidney-Sussex, Downing. Selwyn College, a hostel for members of the Church of England, and Fitzwilliam Hall, the headquarters of the non-collegiate students should be named. Other institutions, not conneeted with the university, are Ridley Hall, St. Edmund's House (Roman Catholie), Westminster College (Pres-byterian), and the two colleges for women, Girton and Newnham. See The Cambridge University Calendar, be held to date from the 12th century. published annually; The Students The first authentic records are in the Handbook to the University and 13th, in 1230, when Henry III. issued Colleges and and the

ini-1913-04, 1909; 1897, etc.

, are the most important The south is also better

eipline and morals of the students, In the N. occurs the Bedford Level the public orator, the librarian, the (q.v.). The principal river is the Ouse, registrar, etc. The council of the which crosses the county from E. to senate, commosed of sixteen properties. W., with its tributaries the Cam. Lark, and Little Ouse. The None, in the N., is also important. These These riversflow chiefly in artificial channels of recent construction, and are extremely sluggish. The county is intersected by numerous drainage works. C. is a rich agricultural district, and the climate is on the whole healthy. The fen-land, when drained and burnt, provides good soil for various erops, and the hills are mainly chalk. The county is one of the chief grainproducing districts of England. Dairy-farming and sheep-rearing are also extensively carried on. are practically no manufactures, but brewing and brickmaking are engaged in to some extent. In Celtie times, C.

orman Counon-collegiate students, who are yet quest, the men of the district made members of the university. For a stubborn resistance to the Norman further particulars see articles on the invader, and it was at Ely that Here-

pre-Roman i, coins etc.,

and Charles I. sent from Cambridge University, one representing Wisbech, one Chesterton, and one Newmarket division. The principal towns are Cambridge (the county town), Chesterton, New-market, Wisbech, March, Soham, and Thorney. Area 859 sq m. Pop. (1901) 190,682. See Conybeare's History of Cambridgeshire, 1897.

Cambuscan, a legendary prince of Cambulae in Tartary whose story Chaueer deals with, but leaves nnfinished, In The Squire's Tale. Hence Milton's reference in Il Penseroso:

Or call up him that left half-told The story of Cambuscan bold.

Spenser also treats the tale in Faërie

Queene, book iv., cantos ii. and iii. Cambuskenneth, a ruined abbey in Stirlingshire, Scotland, on R. Forth, 1 m. E. of Stirling, founded by David

and his queen, Margaret of Donmark, were buried in the abbey, and their remains were discovered during ex-cavations in 1864, and reinterred with an altar memorial erected over them, by command of Queen Victoria in 1865.

Cambuslang, a tn. in N.W. Lanark-shire, Scotland, situated on the i. b. of the R. Clyde, about 5 m. S.E. of It is on the Caledonian

Railway, and has largo steel works and coal mines. Pop. 20,000. Cambyses, or Kambujiya (529-521 p.c.), second King of the Medes and Persians, was the son of Cyrus the Great. After assassinating his brother Smerdis, he wished to form an alliance with Egypt, but, receiving an affront from the Pharach, he invaded that country and conquered it in six months. He was much given to drunkenness and committed various ricum Garnetum, Societatis Jesuitica atrocious crimes. 11c later a expeditions against Carth Ethiopla but hoth failed.

of his life are much confuse Camden, a city and port of New Jersey in U.S.A., and the cap. of C. county. It stands on the l. li. of the Delaware, opposite Philadelphia, and is a large commercial and manufacturing centre, with important foundrles, eotton and woollen mills, chemical and glass works, etc. Pop.

76,000. Camden, Charles Pratt, first Earl of (1714-94), an English lawyer and poli-

C. returns three | left the case to him. He was made members to parliament, besides those king's counsel and attorney-general to the Prince of Wales in 1755, in 1757 Attorney-General, and in 1759 recorder of Bath. In 1761 he was knighted and made Chief Justice of the Court of Common Pleas, and in 1765 was raised to the peerage as Baron C. of Camden Place, Kent. 1n the following year he succeeded Worthington on the Woolsack, reeciving an addition of £1500 to his salary as recompense for the los of his justiceship. He held the office till 1770, although he disapproved of the policy of the government. He lived in retirement till 1782, when he became President of the Council till 1783, and again in the following year till his death.

Camden, William (1551-1623), an English scholar, historian and anti-quary, was born in London, his father being a painter. His early education was at St. Paul's Sehool and Christ's College. In 1566, he went to Oxford, which he left in 1571 without having taken a degree. In 1576 he was made seeond master of Westminster Sehool, of which he became principal in 1593. The first edition of Britannia, the work which has made his name famous, was published in 1586, the result of some fifteen years' research. He was perpetually amending and improving this, and in 1607 the sixth edition was reached. It is written in elegant Latin, and was first translated into English in 1610. The best trans-lation was published in 1789 (2nd ed. 1806) by Gough and Niebols. In 1597 C. resigned his headmastership on being appointed Clareneleux king-atarms. Other important works of his are Reges, Regino, Nobiles et alii in ecclesia collegiata Beati Petri Wed-monasterii sepulti, 1600; Anglico, Hibernica, Normannica, Cambrica, a veteris seripta, 1602; Actio in Hen-Hiber-

fcssorship of ancieut history at Oxford, and in 1883 the Camden Society was founded in his honour.

Camded in his honour.
Camden Town, a district of London in Middlesex, 21 m. N.W. of St. Paul's. It is an important junction on the L. and N.W., N.L., and the L.T. and S. railways. Pop. about 9000.

Camel (Arabie djemal, Heb. gamal), the name given to the one-humped Arabian Camelus dromedarius, and tician, was born at Kensington, and educated at Eton and King's College, to the two-humped Asian bactrianus. Cambridge. He was called to the bar in 1738, but had practically no briefs in 1732, when he made his name as junior to R. Henley, who fell ill and in 1860, and into N. America. It is

1615.

swifter, but not so well able to with kneel at a given signal, and is accusstand the cold, as the bactrian C. tomed by degrees to carry increasing which has a much thicker coat, and loads, which may weigh anything shorter less. The C. has a long thigh. from 50 to 1000 pounds, according to after many days of hardship and inteenth year. It lives from forty to fifty years. The power of carrying water in its stomach and living on limited quantities of food, carned for it the title 'ship of the desert.' While on a journey through the desert a C. will go for three days, doing twenty-



five miles every day, without water, but on the fourth day receiving a supply: the swifter breeds, for there are many varieties of the Arabian C.. will go much longer, and travel over sixty miles a day without refresh-ment. If too heavily laden it will sometimes refuse to rise; but while on its journey it bears its burden patiently, and will often only sucenmb under it to die. If a sand-storm should arise, it falls on its knees, closing its nostrils, remains in that position until the storm has passed. In character the C. is a wild and savage animal, and it is to the fact of its extreme stupidity and passiveness, and not to any instinct of attachment to its master, that man has been enabled to make it of any service. At times the nales become very fierce and dangerous, and make savage assaults on their fellows.

which is vertical in position, and this the breed of the C. which is used. We accounts for its peculiar swaying walk have evidence that the Arabian Cs. when in motion. The humps vary in tize, according to the condition of the isself for domestic purposes, for acanimal; they become small and flaccid cording to Scripture 600 of these beasts formed part of the great posafter many days of hardship and in beats formed part of the great pos-different food. It exists chiefly on the sessions of Job. They were also in-leaves of trees, and dry vegetables, cluded as part of the gift that The female carries her young for Abraham received from Pharaob. eleven months, and a week after The flesh of the C. is a very favourite birth, the baby C. has attained a food among the Arabs; their milk height of three feet, but it is not full-grown until its sixteenth or seven beverage. The Arabs weare the hair teenth year. It lives from forty to of the C. into various materials for elothing; it is also imported into Europe, and used in the manufacture of artists' brusbes. The mounting of infantry on Cs. has proved of great advantage, as it enables the men to reconnoitre in hot, arid countries, where water is not easily found, and where horses are not of much service. European troops have often made use of Ca. in this way, when operating in India, Egypt, and the Soudan in the last twenty years. In many of the Central Asian deserts the bactrian species is to be found in its wild condition.

Camel, an apparatus used for raising a ship, so as to render it navigable in shallow water, consisting of large hollow vessels attached to the ship's side. Invented by a Russian engineer.
De Witte, and much used between kronstudt and St. Petershurz.
Camellord is a vil. of Cornwall.

England, situated on the Camel. 28 m. to the N.W. of Plymouth. The ruins of the castle of King Arthur are situated at Tintagel, 4 m. to the N.W. The pursuits of the inhabitants are mainly agricultural.

Camelina, a genus of crueiferous plants which belong to Europe and the Mediterranean. C. dentata is sometimes found in Britain, where C. salira, gold-of-pleasure, or Siberia oil-seed, also occurs. The latter is of humble appearance, has small yellow flowers, and yields a good fibre.

Camellia, an Asiatic genus of everstretches its neck along the sand, and ereen trees and shrules belonging to the order Ternstromiacee, with thick, dark, shiny leaves, and white or rose-pink flowers. Linneus, the great botanist (1707-78), so named it after Camelius, or Kamel, a Moravian Jesuit, who wrote an account of these plants which grew in Luzon, one of the Philippine Is. There are several the Philippine is. There are several species, the best known being the C. japonica and the C. raiculala. The former originally came from Japan, Is not until its fourth year that its beingintroduced into England in 1739-trolning as a beast of burden com- Its flowers are red, and it grows to a training as a beast of burden com- Its flowers are red, and it grows to a mences; it is then taught to rise and height of 20 it. The latter was brought from China, and is a much smaller plant, with large pink flowers, known as semi-double. The C. Oleifera has sweet scented white flowers, and is a fine variety. The C. sasangua, an lahabitant of China and Japan, and the C. drappigra, from Cochin China and the mountains of India are both and the mountains of Indla, are both ell yielding varieties. The oll of C. oil yielding varieties. The oil of C. sasanqua is in use for many domestie purposes, and has a pleasant edour, it is made by the crushing of the seeds into a cearse powder. The leaves of the plant are also made into a de-coction and utilised by the Japanese women for their hair. The oil of C, drupjera is used for medicinal purposes. The C. is generally grown in Great Britain under glass, but in the southern parts they do well in the epen. They grew to advantage in rich sandy peat and loain, requiring shelter from the cold easterly winds. They are propagated by invers or

cuttings, also by seeds.

Camelopardalis ('the Giraffe'), a constellation near the North Pole, between Ursa Major and Cassiopela. Ιt 2377 originally discovered Burtschius, Jacobus assistant Kepler, 1621, and added to astronomical maps by Hevelius (1611-87). It contains numerous but no

conspicuous stars.

Camelot, the aamo given in modlæval romanco to the seat of King Arthur. It has been identified with Caerleon-upon-Usk, and nlso with Winchester and Camelford in Cornwall. It is mentioned by Tennyson in The Lady of Shalott and The Idylls of the King, and by Shakespearo in King Lear.

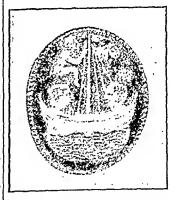
Camel's Thorn, a species of herbior shrub found in the deserts of Western Asia, where it is of importance in

furnishing sustenance to camels. Carneo, er Carnaien (It. camméo). The word is of doubtful origin. It is the suggestion of Mr. C. W. King that It is dorived from the Arabie camen (amulet), while Ven Hammer suggests camant (hump of a camel). The word was in use in the 13th century. C. is an engraved gem in which the figures, or subject, is carved in relief, in direct contrast to the intaglio, a gem in which the engraved subject is hellowed out, as in the manner of a soal. It was not until after the time of Praxiteles, the Greek sculptor, that C. cutting became an art. The stones used for the purposo were brought from the East, and most of them wore of magnificent size and celour. Classical and artistle results were in requisition, for the ernamentation of caskets, vases, cups, etc., as well as for personal ernaments. Many of for personal ernaments. condition, and are to be found in gravers.

various private and public cellections. One of the most famous Cs. Is the Gonzaga, or Odescalehi, originally in the possession of the Empress Jesephine, now preserved in the Imperial

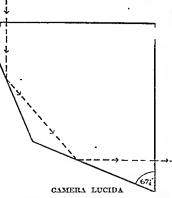


Cabinet in St. Petersburg. On It are ropresented the portraits of Nero and Agrippina. Another smaller but not less valuable C., is that of Jupiter fighting the Titans, by Athenion, 50 A.D., now in the Vutican. The



art of C. cutting was revived during the 15th century in Italy, and was carried on with great success until comparatively recent times, Pistrucci these have been preserved in excellent ending the long line of renewned en-The medern C. cutters of Italy, and other places, finding there | downwards, a true image was great difficulty in the treating of the hard gems, also heing unable to obtain a sufficient supply of the fine ones necessary for the work, hegan to think of some other method: hence the source of the introduction of shell cameos. The two illustrations are reproduced by courtesy of the

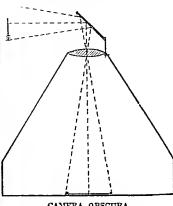
Camera Lucida, an optical instru-ment constructed for various pur-Dr. Robert Hooke was the inventor of one about 1674, and Dr. Williom Hyde Wollaston brought out another in 1807. This latter one was intended to facilitate the perspective outline of objects, and consists of a four-sided prism of glass, having one angle of 90°, and the opposite angle of 153°, while the other two angles arc each of 671°. The C. L. was of some importance to draughtsmen. before photography was used in that capacity, on account of its small size, which rendered it easily portable. Its chief use was in copying, reducing, or enlarging drawings. But it is not an instrument that many have been able



to use satisfactorily: some have heen able to do so, but others have never been able to manage it with much facility. An instrument devised by Amiei was made with a right-nngled triangular prism, involving two refractions nod one reflection.

Camera Obscura, an optical apparatus which coosists of a dork chamber, ot the top of which is a box containing a convex lens and sloping mirror. If a plane mirror is slopiog mirror. If a plane mirror is Camerino, n the of Ceotral Italy, placed behind the lens at an angle of S.W. of Mocerata. It is situated on 45° to the horizon so that the rays of an eastern spur of the Appendines, and

οf object is produced: that is to say, the image appears exactly as the object, and is not perverted, as is the case when an object is viewed in a mirror. This is the principle of the C. O. Its invention has been ascribed



CAMERA OBSCURA

to Giovanni Batista della Porta, 1569, but it is a well-known fact that this C. O. principle had been recognised, and made use of, many years before his time. The C. O. was first employed in the interests of photography about 1794, by Thomas Wedgwood.

Camerarius, Joachim (1500-74), German seholar, born at Bamberg. His proper name was Lichhard, but because the office of chamberlain at the court of the hishops of Bamhers was always held by his family, he changed it to C. (Ger. Kämmerer, late Lat. Camerarius). He was one of the most distinguished philological seholars of the 16th century, and improved the organisation of the universities of Leipzig and Tübingen. He had previously, in 1530, hod a considerable part in the preparation of the Confession of Augsburg, 1530. and in 1555 he was deputy of Lcipzig University to the Diet of Augsburg. He was a friend of Melouchthon, of whom he wrote a biography, 1566, and was esteemed highly by the Emperors Charles V., Ferdinand I., and Maximilian II. His works were numerous, and include translations of the classics, ond monographs on Greek and Latin philology and antiquities.

light would be reflected vertically has a cathedral, a university founded

in 1727, and silk manufactures. Pop. | Port, Edinburgh. See Howie's Scots 12,000.

Camerlengo, sometimes Camerlingo (It., chamherlain), the cardinal who had charge of the papal treasury during the existence of the papal states. He administered justice, and during the interregnnin carried on the functions of government until the new pope was elected, at the choice of whom he presided over the apostolic ehamber.

Cameron, John (d. 1416), Bishop of Glasgow and Chancellor of Scotland. He became secretary to the Earl of Wigtown in 1423, who hestowed on him the rectory of Cambuslang, him the rectory Lanarkshire. In the following year he was appointed sceretary to King James I.; Keeper of the Pivy Scal, 1425; Keeper of the Great Scal, 1427; Bishop of Glasgow and Chancellor of Scotland, 1428. He was summoned to Rome for having made attacks on the Scottish ecclesiastical courts. C added a great tower to his episcopal palace and continued the building of the chapter-house.

Cameron, John (1579?-1625), a famons Scottish scholar and theologian. He was horn in Glasgow, and studied at the university there. In 1600 he visited the Continent and taught classics and philosophy in many con-

of divinity

ln 1618. Britain, and in 1622 hecamo principal of Glasgow University. His advocacy of the divine right of kings made him many encuies, and in 1623 he returned to Sanmar and thence went to Montauhan as professor of divinlty. His doctrine of passive obedience, however, still rendered him very uupopular, and he died from the effects of a wound inflicted in the streets by a political opponent. He was considered one of the most crudite scholars of his time, and was author of several theological works both in Latin and French.

Cameron, Richard (c. 1648-80), a Scottish covenanter, horn at Falkland in Fife, where he became school-master. Converted by the fieldpreachers from Episcopacy, he be-came an extreme Presbyterian, and breached in Annandale and Clydesdale. In 1678 he went to Holland. and returned in 1680 to take part in the Sanguhar Declaration, for which a price of 5100 marks was set upon his head. He took refuge with come comrades in the hllls in preaching whenever he opportunity, nntil he was :

by a party of dragoons at Aird's 1901).

Moss, and both he and his brother Cameroon, sometimes Kamerun, wero slain. His head and hands were a German colony on the W. coast of cut off and exposed upon Netherbow Africa, extending from the mouth of

Worthies (1876) and Herkless' Richard Cameron (1896).

Cameron, Verney Lovett (1814-91). African explorer, born at Radipole in Dorsetshire. He entered the navy in 1857, served in the Mediterranean, the West Indies, and the Red Sea, and took part in the Abyssinian expedition and in the suppression of tho slave trade. In 1872 he was made head of the expedition to relieve Livingstone, and left Zanzibar In March 1873, but at Unyanyembe met Livingstone's followers hearing ceeded to Uilli, where he found Livingstone's records. and quently explored the southern portion of Lake Tanganyika. Afterwards he explored the upper reaches of the Congo, but was prevented tracing its course to the W. coast owing to the hostility of the natives. He then turned his attention to the Zambesi, of which he discovered the sources, and in 1875 crossed Africa from E. to W., heing the first traveller to achieve this feat. In 1878 he explored the route for a Constanti-nople to Bagdad railway from Belrut to Bushire, and in 1882 visited the Gold Coast. He was killed by a fall from his horse while returning from hunting at Leighton Buzzard in Bed-He wrote, among other oss Africa, 1877; Our fordshire. works, Across Africa, Future Highway to India, 1880, and some hooks for hoys.

Cameronians, the followers Richard Cameron, a Scottish Covewho separated fromChurch of Scotland towards the end of the 17th century on a question of ecclesiastical polity. The C. refused to recognise the state control over the Church, and adhered strictly to the

the Presbyterian Chnrch, and were officially known as the Reformed Presbyterians. The C. were bigoted fanatics, but undoubtedly acted from high motives. They refused to take the oath of allegiance, and thus ent themselves off from some of the privileges of citizenship. In 1876 the Reformed Presbyterians formally united with the Free Church, who also maintained the spiritual independence of the church of Christ. There are. however, in the Highlands, a few who the Reformed Presby-1842, and Walker's Six

'lovenant (republished in

marcated by treaties between England and Germany in 1893, and between Germany and France in 1885 and 1894; and was increased in November 1911 by acquisition of part of French Equatorial Africa in com-pensation for recognition of French suzerainty over Morocco. It is a suzerainty over Morocco. It is a mountainous country, with a strip of low-lying land near the coast. The principal rivers are the Lom, Nyory. Lokinya, and Kribi. The part acquired in 1911 is watered by the Logone, which flows into Lake Chad, and the Sanga, which is a tributary of the Conro. The natives in the N. are Sondances negroes in the S. Ranges of the Conrol of the Sanga, which is a tributary of the Conrol. are Soudanese negroes, in the S. Bantus, the former being Mohammedans, while the latter are pagans. Agricul-ture is extensively carried on, and there is a considerable industry of native goods. The district is rich in natural products, exporting ivory, palm-oil, palm kernels, eocoa, rubber, and various woods. There is considerable rainfall, with no prolonged dry season. The colony is in regular steamship communication with Hamburg. Principal towns are Cameroon, Buoa, Victoria, Bibundi, Batanga, and Campo. In 1911 was: receipts, £262,5 £1,078,500; trade

£886,150; exports,,.... area is some 200,000 sq. m., and the pop. about 2,500,000, of whom only some few hundreds are white, the majority being Germans, but with a

few Englishmen.

Camillus, Marcus Furius (c. 445-365 B.C.), a celebrated Roman patri-365 B.C.), a celebrated from an patri-cian and general. He was cosor, or, according to Livy, consular tribnne in 403 B.C. In 396 he took Veil, which had withstood a ten years' siege, and in 394 he captured Falerii. Being con-demned on the ground of misappro-priating the booty of Veil, a decision which was caused more by his un-nopular haughtiness then guilt he popular baughtiness than guilt, he retired to Ardea in 391. It is reported that he returned in the nick of time to stop Brennus from taking the Capitol. He opposed the desire of the plebs to move to Veii, and was largely instru-mental in rebuilding the city. During subsequent campaigns he vanquished the Equi, the Volsci, and the Etrusci, and finally, in 367 B.C., the Gauls, near Alba. During his life he was elected military tribune with con-sular powers six times, and five times dictator. He died of the plague.

Camisards, the iosurgent Huguonots or Protestants of the Cevennes,

the Rio del Bey to a print slightly revocation of the Edict of Nantes by below 3° N. lat. Formerly known as Louis XIV. in 1685, and their zeal the Oil Coast, the territory was de- was fanned by the ruthless Dragonnades, or quartering of dragoons upon Protestant households and the accounpanying acts of cruelty in order to enforce conversion to the Catholic faith. At first consisting only of isolated outbreaks, the movement hecame of greater importance owing to the murder in 1702 of the Abbé dn Chaila, who for fifteen years had proved the most heartless persecutor of the oppressed people. A general insurrection followed upon this evcot, and the rebels, now numbering some 3000, were able to maintain them-selves in the mountains against tho royal forces. The defeat of some royal forces. The defeat of some small detachments of soldiers led to Marshal Montrevel being sent to the district with an army of 60,000 men. The C. were, however, led by a youth of great military capacity named Jean Cavalier, and though the royal army burnt over 400 villages, Cavalier managed to increase the scope of the revolt. In 1704 Montrevel was superseded by Marshal Villars, who wisely adopted more conciliatory measures, pardoning those that surrendered and releasing all prisoners that swnre allegiance, while his troops scoured

band after band of the insur-to suhmit. In May 1704 ditions offered, and left the country, with many of the more moderate C. A few zealots still held out, and the rising was again renewed in 1705, owing to the soverity of Vliars' successor, the Duke of Berwick, but was put down with an iron hand, and the province entirely devastated. Cavalier and many others took servleo with the English and fought at Almanza in 1707, where most of them perished. Cavalier, however, camo to Britoin, and became governm first of Jersey and then of the Isle of Wight. See Mrs. Bray's Revolt of the Protestants of the Cevennes, 1870.

Camlet, a cloth made in the middle

ages frnm camel's hair, but now usnally from the hair of the Angora goat, mixed with silk, wool, cotton, or binen.

Camoens, Luis Vaz de (1524-80), the most celebrated of Portuguese poets, was descended from an ancient noble nod wealthy house, and helonged to one of the highest ranks of society. The exact place of his birth is disputed, but it is almost certain that he was born at Lisbon. By this time the full flond of the Renaissance was making itself felt in Europe, and amount other countries Portugal was so called from the camise or white benefiting from the desire for further shirt which formed their uniform, and fuller knowledge which seemed They rose in revolt against the at this time to lill all men. C. was

the literature and mythology of the classics. He had an excellent memory, and little that he learnt was ever for-gotten. He pro-ecceded ot and there was which he was not able to speak with some authority. He knew well the contemporary literatures of Spain and Italy, he had read much history, and altogether we can say that his great poem gives evidence of his universal knowledge. He camo then to Lisbon, which city made a firm and lasting impression on him, an impression which in his great poem he immortalised. Ho found easy ontrance into the highest society, and he quickly came to be recognised as a poet of no mean trient. In 1544 he fell violently in love with Catherine de Ataides, the daughter of a high ollicial at court. This lady was the inspiration of many of his most impassioned sonnets, and has been aptly described as his Reatrice. He was introduced at court, and here whilst he made many friends he also made enemies, and his too open passion quickly became a matter of gossip. He left the court, but his voluntary exhlowas restless, the verses which he wrote at this time show him to be now exuberant, now in the deepest depths of despair. Many of his sonnets and roundols were written at this time, and from this period also dates the greater number of his eclogues. He was now also employed in the composition of his great patriotic noem the Lusiadas, but his no was manly forced into exilo. His oxile was hastened by the production of El Rei Selenco. In his place of exile he composed The Elegy of Exile, and a number of beautiful sonnets. He now became a soldier, and in 1547 we find him in Centa, where he remained for the next two years still pouring forth verses, some despairing and sad others by licenvilled. In him. and sad, others philosophical; he himself seems to have been buoyed up by the memories of the past. In 1549 he prepared to go to India, and for that purpose he returned to Lisbon; onco there he found it impossible to drag himself away, and he remained to be near his love. But he indulged at this time in wild extravagances which finally landed him in prison. was pardoned, and proceeded to India. He sailed in 1553. In some this date the discovery of India bocomes the main theme. The Portugueso were at this time dominant in to the plague which was ravaging

educated at the college of Ali Saints the East, and although C. was well at Coimbra and steeped himself in received he quickly became disgusted received he quickly became disgusted with his life at Goa. Between 1553 and 1555, he saw a fall amount of active service, his experiences being described in the Lusiadas. Ho did not, however, stay at Goa, but travelled to many places in the East, usually to perform some military duty. Ho wrote whilst there Desparates na India, Filodemo, and Satrya do Torneio. He had mado some little fortune, but now fortune turned against him. After waiting at Macao for a ship to take him back to India, he was imprisoned for intrigue, and he was shipwreeked whilst being brought back a prisoner to India. He managed to save his Lusiadas, but remained a prisoner at Cambodia where he composed his famous 'By the Waters of Babylon.' Still a prisoner he was taken back to Goa, where he heard for the first time of the death of Catherine. It was on this occasion that he produced his famous somet Alma Minha Gentil. He remained a prisoner for some time, heing finally released when a friend of his became governor, and again for a short time he was inprisoned for debt. He was now very poor, but seems to have remained in India living a fairly happy life and working at his great poom. For three years ho was thus employed and finally tho poem was finished, and his ambition became to go back to Portugal and print it. In 1567 ho got as far as Mozambique, but here again he was imprisoned for debt for two years, and finally by the charity, of friends he was released from prison patriotic poem the Lusiadas, out his judicial of the lower still unsettled, and sailed for home. He reached he was finally forced into exilo. His Portugal in 1570. He found his could was fastened by the production mother ready to welcome him; his parties was fastened by the production mother ready to welcome him; his parties was fastened by the production of the large terms of the large ter father was dead, and now having regained his home he set about obtaining permission to print his poem. Permission was given in 1571, and the book appeared. It was re-ecived with acclamation by every-body. Praises poured into him from overywhero. He was granted a substantial pension for three years. a period which was later extended. and ho lived for a time in peace and enjoyment. In 1575 he fell, for a short time, into helpless poverty once more, but the renewal of his pension soon set lilm right again. In 1578 came the disaster of the battle of Alcacer, and C. mourned the loss of his patron and king, Sobastian, in a magnificent sonnet. Early in 1580 the cardinal king died, and C., who pooms no describes the voyage, which the cardinal king died, and C. who probably was not without its in- saw the vanishing of Porturnesoinde-linence on the Lusindos, since after described by the cardinal king died, and C. who probably the cardinal king died, and C. who probably was not without the cardinal king died, and C. who probably was not without the cardinal king died, and C. who probably was not without the cardinal king died, and C. who probably was not without the cardinal king died, and C. who probably was not without the cardinal king died, and C. who probably was not without the cardinal king died, and C. who probably was not without the inr the last of a e fell a victim

of Composite.

Braga. There is an English Life by Adamson and shorter notices with most of the translations of his poems, among which the best are by Burton and J. J. Aubertin. The older translation by Mickle is not faithful.

enitivated for medicinal use.

whore far more valuable plants are produced than any brought from foreign countries; It is also in-digenous to Saxony, France, and Belgium. Its flowers in the cultivated state are said to be double, and the most satisfactory results are obtained from the largest, whitest, and most perfected double flowers. The flowers bave a very fragrant odour, with an intensely bitter taste. In addition to the bitter extraction that is yielded, the C. also produces about 2 per cent. of a volatile flui 1, which at first is pale blue in colour, but on exposure to the light it turns yellowish-brown. The odour is fragrant, like the flowers, and it is composed of butyl, amyl ange-lates, and valerates. The most imlates, and valerates. The most important species of the genus is A. nobilis, from which an infusion of its flowers is obtained, and used as a litter stomachie and tonie. In olden times it was used in fovers, but now other more effective remedies are in use. In large do-es the infusion acts as a simple emetic. Other British varieties are of no account; one of these (A. Cotula), known stlnking C., is so pungent as to the fingers. A foreign variet tindoria) yields by its flowers beautiful dye. The wild C. (Matricaria Chamonilla) is sometimes employed as a substitute for the cul-tivnted variety, but it is easily dis-tinguishable, its flowers being single, not bitter, and with less odour. Camorra (Sp. camorra, a quarrel), secret society established about

1820 by prisoners in the Neapolitan to protect themselves against the brutalities of their gaolers. The associates on their release transferred their practices to Naples itself, lng to pay heavy sums for permission to carry on their business, and the

Portugal. His greatest work was the of illegal lotteries; but while it re-has been mained non-political, it was un-Portugal. | molested by the authorities. Indeed, the dis- both ministers and police sometimes eovery of India and the greatness of invoked its assistance, and men of Lusitania. See Life by Theophile high station leagued themselves with In 1848, however, it adopted lutionary ideas, becoming a it. revolutionary political as well as eriminal organisation, and controlling all elections. During the 'sixtics' it carried on practically a reign of terror, but after Camomile, or Chamomile, a genus years of struggle its power was broken by the government in 1877. It is a herb native to England and Western Europe, and cultivated for medicinal use. It is Even then, however, it by no means became extinct. In 1900 so many grown largely at Mitcham in Surrey, Camorristi were proved to attained high offices that the Neapolitan municipality was superseded for some months by a royal commission. In 1901 the Camorrist candidates were utterly defeated by the Honest Government League. Five years later a double murder by some Camorristi led to the arrest of forty conspirators. their ehlef being Enrico Albano. Witnesses' lives being unsafe at Naples the court was removed to Viterbo, and the trial took place in 1911, several prisoners receiving long sentences of imprisonment. Camp is a collection of tents or huts

which is used to iodge soldiers on a campaign or during field maneuvres. The 'C. of exercise 'Is slightly differ-ent in nature. and will be described later. The size of European armies renders it impossible for tents to be carried for the troops, and cantonments and bivouaes (q.v.) take their place. But when the force is comparatively small, and stationed in a hot country, the troops are still placed under The space required by a canvas. battalion of British infantry at war ınd 280 vds. tents come

, the parade ground, 80 yds. dccp, comes next; then the men's tents, followed by the field kitchens, the officers' tents, and the baggage-waggons and horses; to the rear of all are the tents of the reary and . The space required by a cavalry regiment is 186 yds, front and 255 yds, depth. The formation of the tents is similar to that used in an infantry regiment; the horses are fastened by means of picket ropes lald down between the tents. If the camp is pitched for one night only, less space is required. The space required by a and in n few years the C. became a bottery of field artillery is 100 yds. powerful organisation, practically controlling the life of the city. space is required for each unit of Smuggling, robbery, blackmail, all field-hospital, engineer, ordnance-went on under its rules, traders hav. by

society derived a large revenue from different coloured lamps at night. disorderly bouses and the promotion Thus a field-hospital has a white flag with a red Geneva cross, or a red the latter and was surmounted by a lamp; a commissariat and transport palisade. For plan see next page. C. has a blue flag with a white centre, or a green lamp; an ordnance store C. has a blue flag with a red centre, or a yellow lamp. When near the enemy, on active service, the tactical considerations are of paramount importance; the C. must be so arranged that the troops can be in fighting order on the shortest notice. When this is observed, the C. should also have, if Sabine Hills as an eastern boundary. possible, a supply of good water, and fuel, etc.; the ground should be firm with good natural drainage; and access wide and about 100 m. long. should be open to good roads. When lakes of the Campagna are craters of

pose of combination manœuvresunder war conditions, this is termed a C. of exercise. All the ordinary requirements of a good C. site, as mentioned above, should be complied with, and in addition a wide expanse of fairly wild and changing country is a necessity. The British government has acquired such an expanse on Salishury Plain, and seven Cs. exercise have been instituted: Aldershot, Colchester, Curragh, Shorn-cliffe, Strensall, Salisbury Plain, and Shorn-Stobs. Artillery of the various grades, field, mountain, siege, and garrison, have Cs. at Okehampton, Hay, Lydd,

and Devonport respectively. Camp, Roman. The Romans were the first nation to carry the act of encampment to any degree of perfection; their camp was the same in outline from the time of Polyblus to tance down one

portion of the middle of the v prætorium, or were four gates

each end of the main street, named rivers, and large numbers of encalypporta principalis dextra (right principal gate), and porta principalis cipal gate), and porta principalis sinistra (left principal gate). The gate facing the pratorium was the porta pratoria (prætorian gate), that at the back the porta decumana (decuman The space between the porta gate). pratoria and the via principalis was occupied by two legions and their allies-18.000 in all. On a level with the pratorium were the quarters of

Campagna, a tn. in the dist. of Salerno, Italy, seat of a suffragan bishopric; 16 m. E.N.E. of Salerno and 13 m. S.W. from Conza. Pop. 9000.

Campagna di Roma is an Italian region. stretching along the Tyrrhenian Sea from Civita Verchia to Terracina, and having the Alban and This tract, which comprises most of ancient Latium, is from 30 to 40 m. extinct volcanoes, judging from their conical form and the hard black lava which in some cases forms shores. The 'emissarium' of Lake Albano still answers its original purpose as an aqueduct. The lake of Solfatara is composed of the waters of hot sulphur springs, and has islands formed of calcarcous deposit. This now deserted plain formed in olden times no inconsiderable part of 'the splendour that was Rome,' as is attested by the numerous ruined towns to be found there. In those times the Campagna was well populated and very fertile; but it was only by the skill and care of the ancient inhabitants that it was made so, and even then many of the towns in tho district were unhealthy at certain seasons, according to Livy, Strabo, Cicero, and others. The main cause, however, of the marked changes, is the increased malignity of malaria. outline from the time of Polyblus to the fall of the empire, and was in devastations which the land has form as follows. The camp was an undergone from the hands of the exact square of 2017 Roman feet in Goths, the Vandals, and the Longosize. The via principalls or principal bards, and more recently from the control of the vide and was Normans and Saracens, Since the This is doubtless due to the repeated situated about two-thirds of the dis- land belongs mostly to the church, 'he popcs have attempted

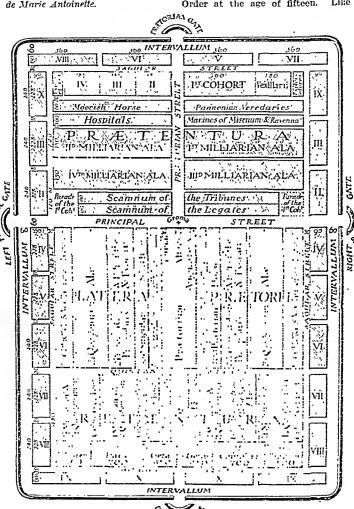
its condition, and the ernment has taken Drainago has been and embankment of tho tus trees have been planted. Attempts have also been made to extirpate the

mosquito, which is by some considered to be the carrier of malaria. The few inhabitants at present on it rcar horses, buffaloes, cattle, sheep, and goats; a few cercals and some fruits are grown.

Campan, Madame Jeanne Louise Henriette (1752-1822), French authoress, was born at Paris. She was apthe prawnium were the quarters of ess, was born at Paris. She was aptible consular guard (horse and foot), pointed reader to the daughters of the legates, and the questor. Belond the pratorium were the extrability of the pratorium were the extrapordinaries and strangers. The whole camp was surrounded by a vallum (rampart) and a fossa (ditch); the for young ladies at St. Germain until (rampart) and a fossa (ditch); the founded a school at Ecouen, and

appointed her principal thereof, a. Campanella, Tommaso (1568-1639), post which she held until the abolition an Italian philosopher, was born at of the school by Louis XVIII. She Stilo, in Calabria. Whilst still quite died at Nantes. Her best known young he showed great talent, and work is her Mêmoires de la vie privée was admitted into the Dominican de Marie Antoinelle.

Order at the age of fifteen. Lilie



ROMAN CAMP

Bacon, of whom he was a contem-, R. Sele is rather malarious, the region porary, he 'took all knowledge for as a whole is very fertile. deavoured to show that philosophy should be grounded, not so much on a priori conceptions, as on the observation of the natural world. After travelling to Rome, be proceeded to Florence, where he was well received by the Grand-Dake Ferdinand. turning to Naples in 1598, he was in the following year arrested in Calabria. whither he had gone on a visit, on a charge of conspiracy against the Spanish government, which then held sway over Naples. He was accused of having schemed to obtain Turkish assistance in making himself the ruler of Calabria. Though there does not appear to have been any evidence against him, he was imprisoned, tortured, and condemned to perpetual confinement. Whilst in prison he wrote many philosophical treatises. Pope Urban VIII. procured his removal to Rome in 1626, and in 1629 he was set free and given a pension. He betook himself in 1631 to France, being afraid of further persecution; he was received with honour by Louis AIII. and Richellen, and was an honoured figure among the savants of that country. He devoted himself to philosophic studies until his death, which occurred at the monastery of his order in Paris. He attempted to form a philosophy of history and politics, the principle of which was the general progress of man leading to a millennium. Among his numerous works may Sensu Rerum et Magia Solis, 1643; Philosop

Campanha, a city in the State of Minas Geraes, Brazil, 190 m. N.E. of Santos, and about 120 N.W. of Rio Janciro. It is the centre of a mining district, and has hot springs in its vicinity. Pop. 12,000.

1633.

Campani, Matthew, an Italian physician of the 17th century, was cure of a Roman parish. Ho was also of a Roman parish. interested in astrology and astronomy, and had great skill in manufacturing the glass for the lens of telescopes. His brother, Joseph C., was occupled with similar pursuits, and left works treating of them.

Campania was the ancient name of a famous province of Italy: as a territorial division it now includes the provinces of Avellino, Benovento, Caserta, Salerno, and Naples. The Neapolitan Apennines traverse the region, running parallel to the coast.

his province, but specialised in cipal river is the Volturno, which philosophy. He was opposed to the flows into the Tyrrhenian Se at a doctrines of Aristotle, and in his point midway between the Gulf of Philosophia Sensibus Demonstrata, Gaeta and the Bay of Naples. C. has published at Naples in 1591, he en- always been densely populated, and the province of Cascrta is the most beautiful, as it is the most fruitful part of Italy. The chief products are wheat. maize. wine-the famous 'Falernian' of the Romans, hemp, silk, sulphur, and fruits. The fields of C., with their luxuriant crops, poplar trees, and canopies of vincs, caused Goethe to remark that 'there it is worth while to till the ground. The area of the province is 6289 sq. m. In Roman times the district was the scene of many legends; Lake Avernus and the Syhil's Cave were situated there. The aristocracy of situated there. Rome built magnificent country-houses in the interior, to which the Appian and Latin ways led. The oldest part of all is situated round Cume (Κύμη), a Greek scttlement, and is associated with such names as Cicero, Augustus, Nero, etc. All the names of cities are rich in classical associations-Putcoli, Cumre, Naples, Salernum, Capua, Beneventum, Noia, etc. Then there are the three unfortunate cities buried in the eruption of Vesuvius in 79 A.D., Herenlaneum, Pompeii, and Stabie. Before the time of the Romans, the Oseans, followed by the Etruscans, were masters of the district; in modern times it has been part of the kingdom of Napies. Pop. 3,500,000. Campanile (It. 'steople,' or 'bel-

fry ') is a term applied to the towers which are erected in close proximity, not attached to very many in Italy. They are of con-

in italy. They are of con-height, rectangular in shape, and graceful in design. The leaning tower of Pisa is perhaps the best known, owing to its remarkable deviation from the perpendicular. It was begun in 1174, the architects being Bonano of Pisa and Wilhelm of Innehrek Eight stories and surof Innsbruck. Eight stories, each surrounded by columns, form the tower, which inclines almost 13 ft. from the perpendicular. Glotto designed a C. at Florence in 1334, which rises to a height of nearly 300 ft., and is adorned with many bas-reliefs and statues of an allegorical nature. Tho C. of St. Mark's at Venice was the best in design: eight stories in height, and tapering in design, an open logic of marble, containing five

huge bronze bells, surmounted by a statuo of an angel in copper, formed the beliry itself. From base to crown it reached a height of 325 ft.: it was completed in 1349, after having heen Though the district drained by the commenced in 888, and on July 14,

1902, it collapsed without any warning. Among other examples of Ca. species flourish in warn climates. The may he mentioned the Torre degli calyx consists of five sepals, the Ashelli and the Torre Garisenda at corolla of five united petals, the analysis of the calyx consists of the sepals. Bologna.

Bologna.

Campanology, see Bell.

Campanula (dimin. of Lat. campanula (expected points) (displayed points) (displaye trachea. Campanulate plants are all herbaceous, have usually a milky latex in the stem. and may he annual or hiennial, though most of them are perennial. Of them all perhaps the commonest in Britain is C. rotundifalia, called in Scotland the hine-bell and in England the bare-hell; the graceful stem and the delicate he of the flower make it one of the daintiest memhers of our flora. The flower juice yields a very good hlue ink, and when mixed with alum a green one. C. pyramidalis, the chimney-plant, is indigenous on rocks. when mixed with alum a green one. Campbell, Alexander (1788-1866), C. pyramidalis, the chimney-plant, is an American preacher, was horn in indigenous on rocks and walls in Ireland. In 1809 he went to America Carinthia, Carniola, and Dalmatia, to join his father, a Preshyterian but is often cultivated for its tall minister, who had formed a 'Christian raceme of beautiful flowers, when the 'Association' at Washington to prodiffering greatly in size and colour. self-named Disciples of Christ, broad-leaved bell-flower or haskhedges and thickets. C. murialis, a 63) opposed emancipation. wall species; C. Americana, a very prominent topic, however, was the tall species; C. erinus, a forked plant; approach of the Second Advent, which and C. macrostyla, a long-styled he predicted for 1866. annual sometimes known as the can-delahrum hell-flower, are all examples of Argyll (1598 - 1661), nicknamed of the genus which flourish in British from his squint, 'Gillespie Grumach'

dræcium of five epigynous stamens.

raceme of beautiful nowers, when the Lasociation at washington to proplant attains a height of about three mote Christian unity on evangelical feet. C. niedium, the Canterhury or coventry bell, is a native of Central came minister at Bethany, West Europe, and is a biennial from which Virginia, and in 1812 succeeded his have heen obtained many varieties father as leader of the new church, differing greatly in size and colour. self-named Disciples of Christ, our C. trackelium, the nettle-leaved bell-generally known as Campbellites. flower, is a European species with Teaching haptism by immersion, he large hlne bell-shaped flowers; C. yet fell out with the Baptist churches glomerata, the clustered bell-flower; of Virginia and Pennsylvania, and occurs in England in hoth a wild and subsequently with the whole Baptist cultivated state; C. rapunculus, the connection. From 1841 to his death garden rampion or ramps, has an he was president of Bethany Collecte; edible root, and the leaves are somethed as the states and in Great Britain and held. times used in salads; C. ladifolia, the States and in Great Britain, and held some memorable debates with Presbroad-leaved bell-flower or has: some memoranie debates with Preswort, is found on dry mountain pas-byterian and other opponents. He tures; C. rapunculoides, creeping bell-flower, occurs in the N.; C. palula, the spreading bell-flower, frequents in The Millennial Harbinger (1830-

of the genus which Hourish in British gardens.

Campanulaceæ, an order of dicotyledonous plants to which the order was summoned in 1638 to London with others to discuss the question of species are occasionally trees or the Covenant with Charles 1. He shruhs, hnt more often they are herbs

tions which had been made in the pension of £2000. Three years later constitution of the Scottish Church. he was buried in Westminster Abbey. His father died in the same year, and lie succeeded to the earldom. At the meeting of the General Assembly at Glasgow in 1638 he openly joined the Church against the Court, and took up arms in support of its cause. In 1639 he negotiated the peace of Berwick between Charles I. and the Scots and in 1641 conveyled him the Scots, and in 1641 compelled him to accept the terms of the Scottish Parliament. He was defeated by Montroso at Invertochy and at Kllsyth, 1645, but succeeded in routing his army at Philiphaugh later in the same year. In 1646 Charles sur-rendered himself to the Scottish army, and C. negotiated with hlm at Nowcastle, and with the English Parliament at London. He took a leading part in the installation of Charles II., whom he erowned at Scone, 1651; but afterwards submitted to the usurpation of Cromwell; and during the protectorship of Richard Cromwell sat in parliament for the county of Aberdeen. As a result of these actions he was charged with high treason at the Restoration, was convicted, and beheaded May 27. 1661. Campbell, Archibald (c. 1726-80), an English satirist, who began life as

a purser on a man-of-war. In 1767 he published anonymously Lexihe published anonymously Lexiphanes, a Dialogue in imitation of Lucian... to correct as well as expose the affected stylle... of our English Lexiphanes, the Rambler, and The Sale of Authors, in which Gray, Sterne, Hervey, and others are ridiculed. The History of the Man after God's own Heart has also been ascribed to him. C. died at Kingston, Lamaier.

ascribed to him. C. died at Kingston, Jamaica.

Jamaica.

Campbell, Sir Colin, Lord Clyde (1792-1863), was the son of a Glasgow. Society of Edinburgh, 1861. In earpenter, but his maternal uncle politics he was a strong Whig, but Colonel C. provided him a commission. He fought at Waleheren and through the Peninsular War, earning 1868-74. He wrote extensively on a captainey. After thirty years of active service and garrison duty, he became lieut.-colonel in 1837, and for brilliant services in the second 1743, was the son of Archibald C.

Campbell, Rev. Colin (b. 1848), Scottish minister, educated at Camp-beltown parish school and at Glasgow University; first holder of the Walter University; first holder of the Walter Scott scholarship in English literature, classics, and philosophy. He frequently officiated before Queen Victoria at Balmoral Castle and Crathie parish church from 1883-1900. C. has been minister of the parish of Dundee since 1882. Among his publications are: Critical Studies in St. Julie's George 1891. Services 1891. in St. Luke's Gospel, 1891; Sen-nofer's Tomb at Thebes, 1908; Two Theban Queens, 1909; Two Theban Princes, 1910.

George (1719-96), Campbell, Scottish divine, was born at Aberdeen, and educated at Marischal College. He was apprenticed at Edinburgh to a writer to the signet, but left the law in 1741 in order to study divinity. He became prinelpal of Marischal College in 1759, and professor of divinity there in 1771, in which year he also became minister of Greyfriars. The work by which he is principally known is his Dissertation on Miracles, known is his Dissertation on Miracles, a reply to Hunne, published in 1762. His Philosophy of Rhetoric, published in 1762, shows sound learning and good critical judgment. His other works include a new translation of the Gospels (1789), and Lectures on Ecclesiastical History, published four years after his death, in 1800. Campbell, George Douglas, eighth Duke of Argyll (1823-1900), a British statesman. He succeeded his prother

statesman. He succeeded his brother as Marquis of Lorno in 1837, and to the dukedom in 1847. He was elected chancellor of St. Andrews University,

active service and garrison duty, he became lieut colonel in 1837, and for brilliant services in the second Argyll and Duke of Greenwich (1678-1748), was the son of Archibald C., Sikh war, particularly at Chillian-twellian and Goojerat, was made wallah and Goojerat, was made K.C.B. and appointed in command at Peshawar. Here, in 1849, he spoke of himself as 'old, and only fit for he frement,' but a few years later he commanded the Highland Brigade in the Crimea, and won fresh laurels. In the Mutiny year, when appointed by Palmerston commander-in-chief in Spain, and in 1712 commander-in-chief in Spain, and in 1713; and crushed his Sherikan and Malplaquet. In 1711, he became ambassador and commander-in-chief in Spain, and in 1712 commander-in-chief in Spain, and in 17 warded a deprived of his offices, 1740; restored,

1742, but soon retired from public | Eton and at Edinburgh Univ.

Campbell, John (1708-75), was born at Edinburgh, but came to London at the age of five years. He first served in an attorney's office, but soon relinquished law for a literary career. In 1754 the university of Glasgow conferred upon him the degree of LL.D. His chief works are: The Military History of Prince Eugene and the Duke of Marlborough, 1736; Trovels and Adventures of Edward Brown, and Adventures of Laurard Brown, 1739; A Concise History of Sprinish America, 1741; Lives of the English Admirals and other eminent British Seamen; On the Present State of Europe, 1750; and A Political Survey of Brilain, 1774.

Campbell, John, Baron (1779-1861), Lord Chancellor of England, son of the Rev. George C., of Cupar, became a law-student at Lincoln's Inn. and was called to the bar in 1806. nine years he occupied himself in re-

was re-elected in 1831. He made his mark as a practical man of business, and was concerned in many useful measures, mostly connected with the rectification of abuses. He strongly supported Lord John Russell's first Reform Bill, and in 1832 was knighted and appointed solicitor-general. ting for Dudley, 1832-34, he was then elected at Edinburgh and represented that city until 1841, taking part during this period, as a Whig, in many fierce contests, especially coneerning the abolition of church-rates and the reform of ecclesiastical courts. In 1840, as attorney-general, ho conducted the prosecution of Frost and now (1912) president of the Belfast other chartists, who were found Methodist College, dean of residences gullty of high treason, and in the at Queen's University, and commisfollowing year he became Chancellor of Ireland, with the title of Baron C. of St. Andrews. He resigned the of St. Andrews.

chancellorship a few weeks later, and devoted his leisure to writing The 1867), Congregational minister. He Lives of the Lord Chancellors and has been minister at the City Temple, Lives of the Lord Chancellors and has been minister at the City Temple, three of the Creol Seal, a work London, since 1903. His book, The which brought him both famo and New Theology, published in 1907, oblique. While valuable as a storeobloquy. While valuable as a store-house of facts, it is frequently innouse of facts, it is frequently in-accurate, prejudiced, and unfair, especially when its author is refer-ring to his own contemporaries. Wetherell said that C. had 'added a new stiog to death.' As a judge be was learned, careful, and honest, but as n statesniau wanting in broad and generous views, being always thoroughly partisan. Campbell, John Francis (1822-85),

of Islay, Argylishire, was educated at

Having an enthusiastic love of his native district, he spent a great part of his leisure in collecting and arranging its songs and folk-lore; mixing with the people as one of themselves ho was completely in their confidence, and got together a large number of legends which he published under the titlo Popular Tales of the Western High-lands (4 vols. 1860-2), also other Gaelie stories and ballads, Leabhair na Fenine (Book of the Fians), in 1872. It may be mentioned that he strongly discredited the authenticity of Maephersoo's Ossian. He was a student of geology, meteorology, and allied sciences, publishing several volumes of travel and observations; he also invented the sunshine recorder now so largely in use,

Campbell, John McLeod (1800-72), Scottish divine, son of the Rev. John C. of Kilninver, Argyllshire, was porting nist prius cases, which he and licensed as a preacher in 1821. afterwards published with notes. His Soon after 1825 his teaching on the private practice as a harrister was deterine of the Atonement aroused not very successful, hut in 1830 he was K.C. in 1827, he entered as member for Stafford ir was re-elected in 1831. educated at Glasgow and Edinburgh,

proved, and removed him from office. He then went on an evangelical mission to the Highlands, and afterwards ministered at Glasgow in a large chapel erected by his supporters. In 1856 he published his famous book The Nature of the Atonement, which was very widely read. In 1859 ill health compelled him to resign ministerial duties, but he continued to write.

::::lliam He y in 1876. He was vice-president of the conference in Ireland in 1909.

atthe ociety.

He writes for various periodicals.

Campbell, Thomas (1777-1844), a Scottish poet, b. in Glasgow. Ho was educated at the grammar school and university of his native town, and in 1795 went to the island of Mull as a tutor. Two years later he settled in Edinburgh to study law, but he found the occupation little to his taste, and instead wrote The Pleasures of Hone,

with a fine energy, and are, for stirwith a fine energy, and are, for stir-ring patriotism, unequalled in our language. C. died at Boulogne, and his body was buried in Westminster Ablier. See the Life and Letters, ed. by Beattle, 1859; Redding. Literary Reminiscences of Campbell, 1860; a short life by Cuthbert Hadden in the Expanse Societ Societ 1900; and Famous Scots Series, 1900; and Poctical Works, edited by Hill, 1891.
Campbell-Bannerman, Sir Henry

Cambridge, where he remained from 1853-58. Both his father and his elder brother were staunch Conservatives, his father having contested Glasgow in that interest twice, and his brother being the Conservative member for Aberdeen and Glasgow Universities from 1880. In 1868. Stirling twice eontested

which appeared in April 1799, and secretary to the War Office and re-went through four editions within a tained his post until the fall of the went through four editions within a tained his poet notil the fall of the year of publication. In 1800 he travelled on the Continent for some months, and visited Munich, Leipzig, and Copenhagen. While he was staying at Hamburg he witnessed the Scottish affairs. He was again attle of Hohenlinden: there, too, he net the hero of his Extle of Erin. In 1803 he took a house in London, and three years later received a pension from the government of £200 per annum. During his period in London he wrote continuously. He contributed articles to the Edinburgh Entury for war, 1886 he announced his adherence annum. During his period in London he wrote continuously. He contributed articles to the Edinburgh Entury for yezlopædia, edited the New Monthly Magazine, compiled The Annals of Great Britain from George II. to the Peace of Amiens, and published Specimens of British Pocks, for which the verote biographies and an introductory essay on poetry. C.'s longer due to the contributed articles to the processes of Hope; Gertrid of Wyoming, 1809; Theodoric. 1824, are not much read now. Their bith ewas prevailed upon to remain interest lies chiefly in the fame they interest lies chiefly in the fame they in the party, and the speakership once achieved. His war sones, I'e fell to Mr. Gully. The years which Mariners of England, Hohenlinden, followed were years of great difficulty of the Battle of the Ballio, are written eutry for the Liberal party. There fell to Mr. Gully. The years which followed were years of great difficulty for the Liberal party. There were grave differences of opinion oven between the leaders as to the policy to be adopted; the party were for the time being impotent, and when Harcourt resigned the leadership in 1898, C.-B. was selected for the vacant post. The onthreak of the Boar War, the opposition of Sir Henry to the imperial polley of a section of the Liberal party, led to still grave differences, but in 1901 a meeting of Campuell-bannerman. Sir Henry underences, out in 1901 a meeting of (1836-1908), Liheral prime minister, the party unanimously and enthusiastically enfirmed him in his Sir James C. of Stracathro, who was at one time Lord Provost of Glasgow. Wilderness' C.-B. handled his party C.-B. was the second son, and was educated at Glasgow High School and possible to say that the reward was insight. Glasgow University, where he had in sight. The controversial measures a brilliant career. After leaving of the government were unpopular. Glasgow he went to Trinity College, the transportance of the government were unpopular. The bye-elections showed that the cambridge, where he remained from 1853-58. Both his father and his Tariff Reform policy advocated by Mr. Chamberlain gave the Radicals for rallying point. The end came possible to say that the reward was in sight. The controversial measures a fine rallying point. The end came in Dec. 1905, when the Unionists resigned and the king sent for Sir н. С.-В. At the election which he political pendulum the 1868 followed C.—B. twice contested Stirling swung from one side entirely to the Burkhs, the first tinno at a bye-election, the second in the general election which followed the Reform 4ct of 1868; at the former he was government were an Education Bill, unsuccessful, but at the latter he agained tho seat. From that date until his death he sat continuously for the Stirling Burghs. He quickly altered by the House of Lords, identified himself with the most propounced and forward opinions of the Liberal party, and his ability and earnestness soon marked him out for Dispute Act, the Patents Act, and office. In 1871 he became financial swung from one side entirely to the other. The returns were: Liberal 379,

immediately after his acceptance of sounds enuld not be produced even the premiership, Sir Henry began to by the species most near to man. fail in health, and to be unable to Camphor (C₁₀H₁₄O), a waxy transfulfil the duties of the office. The death of his wife, together with his own illness, began to make his attend-The ances less frequent. The leadership of the House passed practically into the hands of Mr. Asquith, but still the great popularity of the Premier delayed his resignation, which, however, ultimately eame on April 5, 1908. He died on the 22nd of the same month.

and a rich flora.

Campbeltown, a scaport in Argyll-; shire, Scotland, on the peninsula of Kintyre, 36 m. S. of Tarbert. The harbour, sheltered by Davaar Is., is an excellent one; shiphuilding is carried on, and herring fishing. The Whisky is distilled and exported, and there are manufa. of woollens. The town, which was anciently called Dalruadhain, has a pop. of 10,000. Campeachy (Sp. Campeche) is the

name of a state, a tn., and a bay, in the state of Mexico. The state is level in character, and rice, sugar cane, and tobacco are grown. Dye-woods, eordage of sical hemp, eotton, and indigo are the principal exports. Area nf state, 18,087 sq. m. Pop. 95,000. The town of C. is situated on C. Bay, 90 m. to the S.W. of Merida. The harbour is safe hut shallow; eigars and paim-leaf hats are the principal and paint-leaf hats are two principal manufs. The town was founded in 1540 on the site of a vast series of cataeombs of the Mayas, and was burnt down by buecaneers in 1685.

Pop. 20,000. The Bay of C. is the name given to the south-eastern portion of the Gulf of Mexico, W. of Yucatan Peninsula.

Camper, Pieter (1722-89), a Dnteh physician and anthropologist, horn at Leyden. He held the post of professor of medicine, surgery, and philosophy at Francker from 1749 to 1755, when be removed to Amsterdam, anatomy and medical jurisprudence, in founder of the family. He was a natomy and medical jurisprudence, in pipil of Boccaccino, but his style is of Features in Persons of Various inferior in design and expression beauty, he enderward like the product of the family. He was a natural difference in initiation of Perugino, His work is of Features and Ages, as in his book on rood in the product of the family. Beauty, he endeavoured to prove that of Lazrus' is at Castel Maggic the rules of painting, as laid down by and a portrait of hinself, his h masters of the art, were scientifically piece of work, in the gallery incorrect. In another work he main- Florence. tained that the differences in form

premiership was undouhtedly the and countenance is caused by the dne reward of the leader who had variation of the facial angle. His kept the party so well together treatise on the organs of speech in during the lean days. But almost apes demonstrated that articulate

lucent substance closely related to the ethereal oils, obtained from the C. tree (Camphora officinarum). It is produced in Japan, along the coast of China, but mostly in the island of Formosa. The substance is obtained by storing chips of C. wood in eartbenware vessels closed at the top, into which a current of steam enters. The C. is volatilised, and passes with the steam to the top of the pots, where it Campbell Island, an uninhabited condenses in the form of small white island of volcanic formation, about crystals. C. has a specific gravity 350 m. S. of New Zealand, to which (nearly equal to that 20 water, melts it helongs. Area 85 sq. m., highest at 175° C., and boils at 204° C. It volapoint 1498 ft.; has good harbours tilises at ordinary temperatures, and emits a pungent aromatic odour. is slightly soluble in water, but dissolves easily in ether, alcohol, naphtha, etc., and is used as an ingredient in many liniments for sprains, muscular rheumatism, etc. It is also largely used to keep away moths and noxious insects from elnthing, furs, stuffed animal specimens, etc.

Borneo camphor (C, 11, 0) is found

in Drubalnnops aromatica, a tree of Sumatra and Borneo. It has properties very similar to the above, but is more highly prized by the natives of the E. Blumea camphor or ngain the state of the companion of the is a substance of similar composition found in Blumea balsamifera, and is used by the Chinese for perfuming ink. What is called artificial camphor is really hydroeblorate of turpontine oil (C10H10HCl). It has the odour of the natural product, but does not possess the other useful proporties to

the same extent.

Camphoric Acid (C10 H16O4), a substance formed by digesting camphor with nitric acid. It forms colourless flakes which do not readily dissolve in water.

Oil. a Camphor reddish liquid which is produced in the distillation of chips of the camphor tree. Terude product usually contains quantity of camphor in solution.

Campi, or Campo, a family alian artists, of the school Italian artists, of the Cremona, their birthplace.

inferior in design and expression, but good in colouring. His 'Resurrection of Lazarus' is at Castel Maggiore, and a portrait of himself, his hest

Giulio Campi (1500-72), the son

and pupil of Galcazzo. He studied free import of raw materials, the in-under Giulio Romano at Mantua, but stitution of a national bank, etc. On modelled his stylo on that of the great masters, Raphael, Correspio, Pordenone, and, above all, Titian. Several of his paintings are in the churches of Cremona and at Milan.

Antonio Cavaliere Campi (c.1522e. 1600), studied with his brother under Glullo Romano. He painted under Glullo Romano. He painted historical pieces in oil and fresco, modelling his art upon Correggio. His principal pictures are 'St. Paul raising Eutyehus, an altarpiece of the Nativity, and 'St. Jerome in Meditation' (in the Prado). He was commissioned to paint for Philip II. of Spain at Madrid, and won some reputation as an architect and writer as well as a painter. Fino specimens of his work are at Cremona, Mantua, Modena, and Milan.

Vincenzo Campi (c. 1530-91), less distinguished as an artist than either of his brothers. He accompanied Antonio to Spain. Vincenzo excelled in pictures of still life, but he attempted religious subjects, notably in his 'Descent from the Cross,' an

altarpicco at Cremona.

Bernardino Campi (1522-c.1592), was probably related to this family. He studied with Giulio and Hippolito legs pale yellow. Costa at Mantua, and imitated the work of Titlan, Raphael, and Correggio. He was chiefly employed in the churches of Italy, in which he exceuted some work of a great size. notably in San Sigismondo and San Domenico, at Cremona. In 1584 ho published a treatise on painting, Parer sulla pittura.

Campobasso, formerly Molise, is the name of a prov. and tn. in Italy. The province extends from the S. Apennines to the Adriatic, and has an province, C., is situated 50 m. to the N.E. of Nuples. It is a fort, th.: the manufs, of eutlery are considered the best in Italy, and silk, paper, and hats are made. There are several fine churches in the town, and a fair is held there twice a year.

Campo Formido, a vil. of N. Italy, 6 m. S.W. of Udino. Celebrated for the treaty of peace concluded here between Austria and Franco in 1797, when Napoleon, fresh from the subjugation of Italy, threatened Vionna. Campomanes. Don Pedro Rodriguez.

Conde de (1723-1802), a celchrated Spanish statesman, born in Asturias. He was president of the Cortes, and director of the Royal Academy of History; during his term of office as

the accession of Charles IV. he retired Into private life His numerous works include: Antiquedad Maritima de la República de Carlago, 1756; Discurso sobre el Fomento de la Industria Popular, 1774, which was the first Spanish work to treat of political ceonomy in an efficient manner; Discurso sobre la educación popular de los Artisanos, 1775 : Tratado de la Regalia de la Amortización, 1765.

Campus Martius (the plain of Mars) was the name given to a large plain skirting the walls of Rome on the north-eastern side; it was called also Campus as being the plain of the eity. It was sacred to Mars, and was therefore used for military manœnvres, contests, etc. During the later period of the republic it was laid out in walks, baths, etc., and was used as a

public recreation ground.

Campylomyza, a genus of dipterous insect of the large family Tipulide, which comprises the daddy-long-legs or crane-flies. The species are found on the leaves of trees, and some in-habit Britain. C. bicolor is of a blackish colour, with the edges of the abdominal segments pale, and tho

Campylus, a genus of colcopterous insect of the

related to

fire-files.
Britain, is nearly half an inch in length, and is found on the leaves of trees, nettles, and other plants.

Camwood, the name of a wood ob-

tained from a tree that grows in Africa and Brazll. From it an exceedingly brilliant red dye is obtained, of which the only defect is its lack of permanency. Barwood, very like C., but giving a duller hue, is obtained from area of 1778 sq. in. Sheep and goats giving a duller hue, is obtained from are reared, and wheat, maize, and the same tree. The wood is also manuollyes grown. The eapital of the factured into various articles of turnery, such as knife handles.

Canaan (low lands) was the name which was originally applied only to the low coast-land of Palestine, on the Mediter:

mountain la The part of

was afterwards called the 'land of C.,' that to the E. the 'land of Gilead.' Later still the name denoted the

whole of Palestine.

Canada is widely different in extent and in a political sense from the British colony which was so called in 1867. Before that year C. was a region which extended from the watershed W. of Lake Superior eastward to Labrador, and had a length of about 1400 m. and a breadth varying from 200 to 400 m. The indopendent British provinces of Nova Scotia, New Bruns-Ministor of State he introduced many 200 to 400 m. The indopendent Brittan reforms, such as the opening of provinces of Nova Sectia, New Bruns-Spanish ports to foreign trade, the wick, Prince Edward Is., and News foundland, together with the im- bays which form magnificent harmense area owned by the Hudson Bay Company, constituted with C. the British possessions lu N. America. Various considerations caused the union of these provinces into the Dominion of C. in 1867; these reasons will be dealt with in the historical section. The Dominion of C. was con-stituted by the British North America Act of 1867, which united the various colonies of British N. America. The first colonies to unite were Upper and Lower C., Nova Scotia, and New Brunswick; what had formerly been the Hudson Bay territory was bought from that company, and formed into the provinces of Manitoba and the N.W. Territory. These were admitted into the confederation in 1070. N.W. Territory. These were admitted E. of the Rocky Mts. Large tracts in into the confederation in 1870. In the N. are composed of tundras the following year British Columbia in the N.W. Territory is similar to those of Northern Russia joined the union, and in 1873 Prince and Siberia: these descend as far as Edward Is. The N.W. Territory is the 58th parallel on the western shore partly divided up into the three of Hudson Bay, and extend still provinces of Aberta, Saskatchewan, further E. along the whole coast of ure formed in 1995 from the four provinces of Assinihoia, Saskatchewan, Alherta, and Athabasca, which had been in existence since 1882. I with forests of pines and firs. The C., as now formed, is hounded on the N. by the Arctic Ocean, on the W. by the Arctic Ocean, on the W. by the W. of the Dominion; these are of the W. of the Dominion; these are of the W. by the Arctic Ocean, on the greatest extent on the table-lands G., as now formed, is nounced on the W. by
N. by the Arctic Ocean and Alaska, on the
E. hy the Atlantic and NewfoundE. hy the Atlantic and NewfoundIndianal and on the S. by the U.S.A.
The dividing line between C. and the
States is the middle line of Lakes
Superior, Huron, Erie, and Ontario,
and to the W. of the Lake of the
Woods the parallel of 49° N. lat. The
middle line of the St. Lawrence, as
far as the parallel of 45° N. forms the
boundary E. of the great lakes; then
the boundary line runs by that
parallel to Hall's Stream, the most
westerly of the headquarters of the
Connectient R., and by that stream
to its head. The water-parting of the
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Connectient R., and by that stream
to its head. The water parting the parting as far as Passamaquoddy Bay (Atlantic. The whole of the N. r

Physical features.-The islands of the Arctic Archipelago are connected with the history of commerce and ex-ploration, for a N.W. passage to the E. of Asia was vainly sought for many years among the channels separating theislands. Maclure between 1850 and 1853 effected a passage, but the dis-

hours. On the Altantic coast the chlef indentations are the Bay of Fundy, which is remarkable for its high tides and 'bores,' the Gulf of St. Lawrence, and Hudson Bay, which has an area of over 350,000 sq. m. The Pacific eoast has no such vast hays, and is smaller in extent than the Atlantie coast, but it is broken up in a note-worthy manner by fjords. There are a fair number of islands off the coasts. Vancouver Is. and Queen Charlotte Is, are the most noteworthy off the Pacifie coast; Prince Edward Is., Cape Breton Is., and Anticosti on the Atlantic side. Plains and undulating lowlands make up the surface to the E. of the Rocky Mts. Large tracts in e terminates in the The St. Lawrence

Atlantic. The woole of the the entire in this section of the territory, with the exception of Dominion; the St. John, the Miramiehi, and the Restigouehe Rs. are worthy of mention. The great feature of Eastern C. is the system of lakes. which have a united area of 90,000 sq. m. The principal rivers of the Dominion in addition to the St. Lawrence and its tributaries already mentioned are: in British Columbia, the Fraser, the Thompson, and the covery was of no commercial value major portion of the Columbia R. as the route is too much hampered by The Athabasca R. and the Peace R. ice. The Atlantic and the Pacific flow into Lake Athabasca, and issue shores are well supplied with deep out from it under the name of the

Mackenzie R. until it flows into the Arctic Ocean, after flowing 2800 miles in all. The Albany R. and the Churchill R. flow into Hndson Bay. The Red R., the Winnipeg, the Assiniboine, and the Saskatchewan flow into Lake Winnipeg, from which the Nelson R. flows into Hudson Bay. The more important of the lakes are Lako Athabasca, which has an area of 3000 so. m. the Great Slave Lake and the Red State Lake and the Red State Lake Red State Lake State Lake Red State Lake Lako Athabasca, which has an area of 3000 sq. m., the Great Slave Lake. the Great Bear Lake, Lake Winnipeg, which is 9000 sq. m. in area, Lake Winnipegosls, Lake Manitoha, the Lake of the Woods, the Lake of St. John, and Lake Mistassini. The greatest elevation is found in the eastern range of the Rocky Mts., in about 52° N. lat.; the highest peaks are Mt. Brown (16,000 ft.), Mt. Murchison (15,789 ft.), and Mt. Hooker. Hooker.

Geological formation.-The geological structure of C. is of very great importance in connection with the physical features. Archean and other crystalline rocks extend over very large continuous areas, and where such rocks prevail the earthy covering is as a rule only a thin layer spread over a hard foundation. Over this thin earth many rivers flow with Innumerable turns and windings, and there are a number of lakes of varying

tirely of ' features those of the N.V.

of the Dominion, with one or two patches of Cambrian; these formations extend along a narrow piece of land bordering the St. Lawrence from a little below Quebec and occupying the whole area between the St. area between Lako Ontario and Georgian Bay, together with the northern part of Lake Huron, ex-tending nearly as far N. as the Madawaska R., is composed of the same class of rocks; the south-western part of the lake peninsula between Lako Eric and Lake Huron is composed of rocks of the Devonian period. Lakes Manitoba and Winnipegosis Lakes Manitoba and Winnipegosis are also almost surrounded by Devonian rocks. The Archean rocks near Lake Winnipeg are sneceeded by Silurian and Devonian strata, which stretch westwards in strips running parallel with Lake Winnipeg and Lake Manitoba. To the W. of these formations a year area of these formations a vast area of

Slave R.; this flows into the Great | Cretaceons deposits is found, of which Slave Lake and is known as the the precise limits bave not yet been Mackenzie R. until it flows into the determined. Tertiary rocks are found here and there to the westward of the above area, and the geology of the mountainous tract in the W. is much too complicated to be dealt with in detail. Over almost the whole of the Dominion glacial deposits are found, and in some places there are aqueous deposits; the rich soil of the Red R. valley in Manitoba is formed by agneous deposits.

of aqueous deposits.

Climate.—The climate of C. is characterised by greater extremes of heat and cold than that of Great Britain, but is bealthy on the whole.

E. of the Rocky Mts. the climate of the Dominion has those extremes of temperature which are prevalent all over the northern hemisphere in the same latitudes, save in those regions which are exposed to sonthwesterly winds from the sea. difference in the climate of Western C. and Europe is mainly due to the fact that the area between the Rocky Mts. and the Pacific is mountainous in character, and the mountains extend at right angles to the prevailing winds and parallel with the coast. For this reason great contrasts both of rainfall and temperature are found close to the Paelfic. The total precipitation is very scanty to the E. of the Rocky Mts. as far as Eastern Assimiboia, when it begins to

iliarities of the climate as this industry must be borne Most of the total precipita-

es place during the summer prevall over very large areas. Silurian months; a considerable proportion of rocks succeed the Archæan in the E. the precipitation is in the form of This is the case throughout snow. the Dominion of C., hut in a much greater degree in the E. than in the W. From this snowfall springs in each part of the country a different advantage for the cultivation of wheat. The great advantage of the snow in the eastern region, where the precipitation is distributed more equally throughout the year, is that it protects the ground against the severe frosts. Therefore in those severe frosts. Therefore in those regions 'fall' or winter wheat can be grown. In Manitoba and the N.W. the frost comes before the snow, and spring wheat only can be grown. But the melting of the frozen water in the spring furnishes moisture at the time when it is wanted, save in the vory dry parts of this region, where irrigation is receiving the attention of the government as well as of private individuals. The rainfall does not determine the amount of the produce so much as whether or not frost occurs

lessened by the careful choice and cultivation of hardy varieties of in C. commences in April two or three weeks later than in England, but by the middle of July the crops of the latter country can claim no advantage in their condition. June, July. August, and September may he said August, and September hay he said to constitute the summer, and from October to the middle of November is the autumn. The remaining portion of the year, from the middle of November to the end of March, is the winter. Although cold temperatures are frequently found, the Canadian air is generally dry and exhibitating. and the climate in consequence salubrious. The temperature in the winter in districts near to the mounwinter in districts near to the mountains is mitigated by warm winds, which blow from the S.E., S., or S.W on the westward side of the Rocky Mts., and from the S.W. W. or N.W. on the E. side. These winds are known as 'chinook' winds, and they are the reason of Alberta's principal industry being the raising of stock, as these winds cause the cold of winter to alternate with periods of warm weather when the ground is eleared of snow, and the grasses flourish. grasses flourish.

Canals and waterways.—The canals of C. are only about 270 m. in length, but hy their aid over 3000 m. of inland navigation is opened up. The St. Lawrence R. and the Great Lakes, supplemented by a number of short canals, together form a system of interest of the state of t navigation which is equalled in any other continent. Lachine Canal above Montreal was the first to be constructed: It was opened in 1825, and other canals hetween Montreal and Lake Ontario were completed by 1843. The Welland Canal runs parallel with the Niagara R., avoiding the falls; it has a total rise of 326 ft., obtained by twenty-six locks.; The Sault Ste. Marie, or 'Soo' Canal, between Lakes Superior and Huron, was constructed between 1889 and 1895. It is not much more than a mile in length, and has one lock only, which measures 900 ft. by 60 ft. The canal on the United States side at the same place, which has been there since 1855, has been fitted with two locks since 1896, the larger of which is 800 ft. hy 100 ft. The traffic through

hefore harvest. The risk of erops huilt for the lake and canal traffic. heing ruined in this manner is being There are other less important inland waterways in the Dominion in addition to this main route. The river wheat, which ripen quickly. Spring Ottawa is navigable as far as Ottawa city, with the ald of some canals: and Kingston on Lake Ontario is connected with Ottawa by the Rideau R. and Canal. Navigation can be continued above Lake Superior by Rainy Lake and R., thence by Winnipeg Lake and R., and thence up the Saskatchewan R.; the Assiniboine R. and the Red R. are also navigable.

Railways.—In the more populous parts of the Dominion railways are generally to he found, and since the completion of the Canadian Pacific Railway in 1885 there has been communication from ocean to ocean within the territory of the Dominion. within the territory of the Dominion. This railway has an advantage over its older rivals, the Northern Paeific and the Union and Central, in the lower height of its passes and the shorter length of route at high levels. The Great Northern Railway, of which the main line was completed in 1893, has as good a route on the whole as the Canadian Pacific Railway. as the Canadan Facine Manway.

The three principal systems in the
Dominion are the Canadian Pacific,
which has a length of track (including its branches of 7729 m.) of 10,633
m.; the Grand Trunk Railway, an amaigamation of over twenty smaller m.; and the Intercolonial Rallway, with a length of 1360 m. In the year 1901 there were 18,140 m. of railway

open in C. Industries.-The fisheries of C. are the largest in the world, and there are annually sold in the Dominion markets over \$20,000,000 of fish. Both the sea fishing and the freshwater fishing are of great importance, the lakes and rivers supplying abundance of fish for commercial purposes in addition to giving to sportsmen some of the finest sulmon and trout some of the intest sandon and trough fishing in the world. The development of the fisheries has during late years been the object of attention on the part of the government, and an annual bounty is granted by them to the vessels engaged in the fisheries. The number and the efficiency of tho boats have thus been increased; and fish breeding establishments have been commenced in different parts. The principal fish are cod, herring, lobsters, salmon, mackerel, haddock, trout, and sardines. The mineral 800 ft. by 100 ft. The trame through possers, samon, mackers, naddock, these canals is now the largest in the trout, and sardines. The mineral world, much exceeding that on the Suez Canal. Sca-going ships may be carried from the Strait of Belle Isle developed as yet. The minerals of in the N. of Newfoundland to Port arthur on Lake Superior, a distance of over 2200 m.; it is, however, more coal, gold, silver, nickel, copper, and economical to have special ships from There are coalfields of very large

is no coal. It is the absence of coal in this, the most populous area of the Dominion, that makes C. dependent so largely on the United States for fuel, not only anthracite, which is free of duty, but bituminous coal. on which there is a duty. Iron ore is found in many places, the most promising deposit at present being that of Michipicoten in the Lake Superior district of Ontario. The largest quantity of gold is found in the Yukon district of the N.W. Territory, and in British Columbia and Nova Scotia. Most of the silver and copper which is found in the Dominion is in the province of British Columbia; copper is also found. together with niekel, at Sudbury in Ontario, in which province are also found petroleum and salt. The exfound petroleum and salt. The exports of minerals from the Dominion include coal, gold, copper, iron, phosphates, salt, antimony, mineral oils, and gypsum. The timber industry of C. has always been of the greatest importance, and since the invention of so many uses for wood pulp it has gained rather than lost. The Canadian saw mills are very well managed and appointed, and large numbers of men are employed in the various stages of the timber industry. The varieties of woods dealt with include the maple. elm, hickory, ironwood, spruce, cedar. pine, hemloek, walnut, oak, bass-wood, chestnut, rowan, bireh, willow. etc. Including wood pulp, the value of the timber exports in 1901 was over \$30,000,000. Agriculture is the leading interest of the Dominion, and considering the great area of land that has still to be tilled, must remain so for some considerable time. Dairy farming is extensively practiced, and the development of transport facilities and cold storage has given a fillip to this trade, as well as to the exportation of meat. There is a Dominion Department of Agriculture which has a member of the Cabinet at its head; and five government experimental farms have been established in various parts of the Dominion. The exportation of cattle is an industry that is of fairly recent date but is growing rapidly. The cattle reared in the Dominion are of good quality, as and within the boundaries of the during the last fifteen years many pedigree animals bave been intro- Intercolonial Conference of 1894,

extent, though they are as yet worked only in the neighbourhood of seaports, such as Vancouver Is, and in the New Yancouver Is, and the come to maturity. Quebec has tanning iodustries and manufactures of W. of the Crow's Nest Pass, and the coal is of excellent quality. It is, however, noteworthy that between New Brunswick and Manltoba there is no coal. It is the absence of coal in are manufactured in larger numbers. are manufactured in larger numbers. The value of the exported mannfactures in 1904 was over \$48,000,000; the principal articles were agricultural machines, whisky, boards, wood pulp, musical instruments, earriages, bicycles, boots and shoes, cotton goods, etc.

Shipping, dc.—The number of vessels registered and owned in C. in the year was 6894, with a tonnage of 675,627; this was made up of 2189 steamers of 182,832 tons net, and 4705 sailing vessels of 492,795 tons net. The tonnage of vessels entered and eleared in 1902 was 14,731,488 tons, exclusive of 15,293,916 tons entered and eleared at the lake ports, to and from the U.S.A., in the same year the coasting trade amounted to 40,700,907 tons entered and cleared. Regular lines of steamers run between Great Britain and C., and there is a monthly service of mall steamers be-tween Vanconver and Australia in connection with the Canadian Pacific Railway; this service is assisted by subsidies from the respective governments. The Canadian Pacific Raiiway has also in connection with It a service of steamers between Van-eouver and China and Japan, thus bringing London within three weeks of Japan. Post-office savings banks have been in use in C. since 1868; there were thirty-four incorporated banks making returns in 1902, with 747 branches. There are also various loan, friendly, and building societies, and one or two chartered savings

Commerce.—Since 1879 the foreign commerce of the Dominion has been affected to a large extent by the increase of the customs tariff. percentage of dnty on the total value of goods imported, both dutiable and free from duty, was in 1868 12 per cent. and in 1878 13 per cent. In the following year a general increase in the tariff was sanctioned by the government, and what is known as the 'national policy' was begun. The percentage of duty was in 1881 201 per cent., and in 1901 16 per cent. There are no restrictions placed on trade between the different provinces,

held at Ottawa, carried a resolution in 1902 the percentages were 55.5 and in favour of an arrangement between Great Britain and her colonies by means of which the former should he given preferential treatment over foreigners. Accordingly an act was passed in 1897 under which British goods were to be admitted on the payment of customs dues 25 per cent. less than those levied on foreign goods; the United Kingdom and iron and steel manufactures. C. exports payment of customs dues 25 per cent. less than those levied on foreign goods; the United Kingdom chiefly lumber, wood pulp, hutter, cheese, grain, fruit, haeon, and live from Aug to the United States gold, and lead ores, nickel, and

arons July 1, 1900. In an antement a snestos, coal, fish, hides, and timber, applies not only to the produce of the United Kingdom hut also to that of the W. Indies, as well as that of any other British colony which has a large as the whole of Europe; the following were the populations outler British colony which has a and areas of the different provinces customs tariff comparing favourably of the Dominion in 1901. Prince in Its relation with C. to the reduced Edward Is., with an area of 2184 Canadian tariff; it does not, bowever, apply to any alcoholic liquors, Scotia, 21,428 sq. m., pop. 459,574; tohacco, or liquid medicines. The ever, apply to any alcoholic liquors, tohacco, or liquid medicines. The tariff was modified in somo detalls in 1904, when the abatement on most of the woollen and worsted goods of o about 15

il valuo of ween 1872 · sterling:

1880 1876 and between almost £19,000,000 sterling; and between 1886 and 1890 £23,500,000 sterling. During the same periods the average total value of the general exports £17,750,000, £16,500,000, sterling £18.500.000 respectively. Among the exports, timber has always been the most important, although relatively its importance is growing less; among the imports, iron and steel less; among the imports, iron and steel goods hold the first place. Trade with Great Britain in 1902 amounted to the value of \$166.526,000; with the U.S.A. \$192,013.000; with France \$8,061,000; and with Germany \$13,516,000. In 1904 the total trade was valued at \$472.733,000, of which tho exports were \$213,521,000. Of the exports Britain received 55 percent, and the United States 28 percent. cent., and the United States 28 per cent.; of the imports Britain sent 24 per cent., and the United States 58 per cent. The proportion which C. imports from Great Britain has been gradually decreasing; this is caused mot so much by any actual decrease in the amount which Great Britain sends as by the great increase in the amounts imported from the United States. On the other hand, the pro-portion which C. exports to the United Kingdom has increased in as marked a degree as the imports have lessened. In 1872, 58'57 per cent. of Canadlan Imports were from Great Britain; in 1904, as we have seen, 24 per cent. only. In 1867, Great Britain only received 30'2 per cent.

from July 1, 1900. The ahatement ashestos coal, fish, hides, and timber.

United Kingdom but 1, 1900. The ahatement ashestos coal, fish, hides, and timber.

Population and area. Communications and area.

sq. m., 178,657 inhahitants; Alberta and Saskatchewan (formed from Assiniboia, Saskatchewan, Alberta, and Athabasca in 1905) and the N.W. Territories, area 2,694,880 sq. m., 211,649 inhabitants. The total area of the Dominion, with C's share of the Great Lakes, is 3,653,946 sq. m., and the pop. (1901) 5,371,315. The principal nationalities represented are English, Irish, Scotch, French, Gernan, and Indian, though there are also some few Dutch, Russian, Chinese, Welsh, Italians, Jews, half-breeds, etc. English is the general language of C., though in some parts of Quebec French is the only language understood, and the French language is by statute an official language in the Dominion parliament and in Quebec, but not now in any other province. Members of the Quebec and Manitoba parliaments may also address the House In either English or French. French Canadians, or 'habltants' as thoy are called, speak a patois which resembles 17th century more than modern French. The number of Indians in C. in the year 1881 was estimated to be 108,547; in the year 1902 lt was 108,112. It is thus seen that the race is practically stationary, and when it is recalled that very few Indians of pure blood remain, it may be sald to be gradually declining. Of the number now left about one half are in Manitoha and the N.W. Territories, and the remainder are almost equally divided between British Columbia and the Eastern of C.'s exports, whilst the United provinces. Such as are in inhabited States received 59.86 per cent.; in districts are usually located on reserves, and are engaged in agricul- in Manitoba and the N.W. Territories, thrai and industrial pursuits. Many however, the Dominion government of them hunt and fish for their livellowns the land, with the object of need, and many are comployed, as obtaining some money to lessen the guides by sportsmen. The franchise debt incurred by the acquisition of was extended in 1886 to those who these territories and the construction possessed the necessary qualifications, | " " and schools are being established for the education of their children.

917,000; the Presbyterions, 812,500; vinces similar induce the Church of England, 680,500; the out to lumigrants. local rates and provincial govern-ment grants. In Ontario and Quebec. where then umber of Itoman Catholica is very large, there are separate schools for members of that denomination; there used to be such actions in Manitolia, but there they were abolished in 1830. The teachers are trained in provincial normal schools at the public expense. expenditure on education in 1900 was about \$10 per head of the pop. The standard of education in the Dominion is a very high one, and poverty need he no bar to the intellectual student. The principal univerrities of C., with the dates of their versities of C., with the dates of their foundation, are as follow: Dat-housle in Nova Scotia, 1820; M'GIII in Montreal, 1821; New Brunswick, 1825; Toronto, 1825; Queens in Kingston, 1841; Laval in Montreal, 1852; Manitoba, 1877. Social conditions, dc.—The social conditions procalling in the foundation

conditions prevailing in the Dominion do not favour the existence of such rigid distinctions of caste as still exist in England. There are no tenants, and consequently no landlords; practically every farmer owns like farm and is his own master. With this pervading sense of freedom, C. has passed many such laws as the English nation is still value trying

Religion and education.—There is settlers over eighteen years of age, no state religion in C., and absolute and to female heads of families, with toleration is there an accomplished the option of purchasing a similar fact. In 1991 the Roman Catholies area at prices varying from 8s. to 10s. numbered 2,220,000; the Methodists, per acre. In most of the other pro217,000; the Presbyterians, 812,500; vinces similar inducements are held Baptists, 316,506; the Lutherans, forces have always proved themselves Baptists, 316,506; the Lutherans, forces have always proved themselves 22,500; and the Congregationalists, toyal to the cupite; they have taken 28,300. Tagation to support free and the field in the war of 1812-14, in unsectarian schools has been levied in Papineau's rebellion of 1827, the C. since 1816. The control of the Fenian raid, the field R. expedition of 1835, the New rebellion of 1835. perial government carrisoned the fortresses of Hallfax, Esquimanit, and Vancouver until the year 1905, when the Dominion government's offer to take over the defences of these places was accepted. The Canadian forces are divided into two sections; the permanent force forms four schools, and consists of 1066 units of all forces. cavairy, artillery, engineers. infantry. Every male Canadian be-tween the ages of eighteen and sixty is liable for service in the second section of the forces, the active militia, which anothers about 46,000. In addition there are the Canadian N.W. Mounted Police, who number about 1000. The relations between C. and the U.S.A. are, on the whole, tranquil, though, as was inovitable, disputes have arisen at various times. The Alaska frontier difficulty caused perhaps most trouble, but was finally ettled in 1903. Other matters on which discussions have taken place are the Belning seal fishery, and the ore the Beuling seal nancry, and the rights of United States fishermen in Canadlan waters. The question of the annexation of C. to the U.S.A. is discussed sometimes, but such an event is not in the region of practical That such would be tho nolitics. destiny of C. was the view of Pro-fessor Goldwin Smith, but his views English nation is still valuit trying lessor Goldwin Siniti, but his views to tring forward. Local option pre- are not generally shared, nor are thoy valls in the drink question throughout the Dominlon; religious liberty denominations of money in the curses established; free and unsectaring rener of C. were declared by cap. 4 education is practically universal; of 31 Vict. to be dollars, cents, and the franchise is framed on a liberal mills. These were on the decimal reade, and members of parliament are isvatem, there being 100 cents in a r, and 10 mills in a cent. The 31 sovereign was then declared

mount tall ! provinces the . the control of

; legal tender for \$1.86. Silver struck by order of Her Majesty ; were legal tender up to \$10, and similar copper coins up to 25 cents. The gold eagle of the United States gradually disappearing from circulation, and none have been struck for a considerable time. C. has no gold coinage of its own; the Dominion government controls the issue of specie.

the province for which they are appointed. The number of the senators i is eighty-one. In the Honse of Commons the province of Quehec has the fixed number of sixty five members and the other provinces are represented in the proportion, as ascertained at each decennial census. that the number sixty-five bears to the pop. of Quebec. The members of the House of Commons are elected the House of Commons are electron for a maximum term of five years, or until the parliament be dissolved. The only qualifications necessary for the Lower House is that the mem-bers must be British subjects. They are paid at the rate of \$10 a day if the session last less than thirty days, and a maximum amount of \$1000 for any period over that time.
The provinces have local legislatures: at the head of each of the provinces is a lieutenant-governor, who is Brunswick and Upper C.

was also declared to be legal tender focal taxation is by no means heavy. for \$10. All the coins in circulation The governor general has a right, in C. are struck in England; they which is, of course, very seldom comprise silver 50, 25, 20, 10, and 5 excreised, to disallow or reserve bills cent pieces, and copper one cent for imperial consent. The constitupleces. The 20 cent pieces are tion of C. cannot be altered save by the imperial parliament, but to all intents and purposes C. has complete autonomy.

History.—In 1535 Jacques Cartier, Frenenman, undertook a voyage Government .- By the British North of discovery along the coasts of New-America Act of 1867, the executive foundland and Labrador, and in the government of C. is vested in the following year discovered the St. king, who is represented by all Lawrence R. and travelled as far as governor-general appointed by him the Indian capital, Hoebelga, bringfor a term of five years. The emoluting back with him the first cargo of ments of the governor-general are. Canadian furs. Some small settle-bowever, paid out of Canadian ments were made by the French, but revenues. The Federal parliament abandoned after two years, and it consists of two houses, the Upper was not till 1608 that Samuel de House, or Senate, and the Lower Champlain, who had visited the House, or House of Commons. The country in 1603 and subsequent years, normalize of the Upper House of House, or House of Commons. The country in 1003 and subsequent years, members of the Upper House are founded the city of Quebec. The St. appointed for life by the governor-general under the great seal of C. colony under the name of C. for the They must be over thirty years of next century and a half, but the ago, British subjects, and must reside in formed in 1670, and becan to carry the contract of the contrac on trade with the Indians in the N.W. Territory. Halifax in Nova Scotia was founded in 1749, and a British governor was set over a number of British who had emigrated thither. The struggle between the French and The struggle between the French and the English for the possession of the N. American continent was lengthy and determined, but the English proved victorious in the long run. The taking of Quebec by Wolfe in 1759 really secured C., though the formal cession was not made by the French till the close of the Seven Years' War in 1763, by the Treaty of Paris. The boundary between C. and the United States was first defined by another Treaty of Paris in 1783 at the end of the American War of Independence. After this war many loyalists came over into C., and two lovalists came over into C., and two new colonles were formed, (now appointed by the governor in council. Ontario). Quebec was in 1791 divided and paid by the Dominion. He acts into Upper and Lower C., but this measure was unsatisfactory to the inhabitants of both provinces, and in 1837 rebellion resulted from the lature shall consist of one or two constant discontent and friction houses is entirely within the control Lord Durham was sent over to reof the local authorities, who also porton the situation which had arisen, determine the election of members, and his report led to the reunion of the franchise qualifications, and the the two provinces and the granting the tranchise qualifications, and the the two provinces and the granting electoral districts. The length of a of responsible government to the local parliamentary session is limited colonists. Upper and Lower C. were to four years. The administration of no more harmonious when joined the N.W. Provinces is in the hands of a lieutenant-governor and a council confederation took place. For the composed of some elected and some nominated members. There is a very and colonies joined the confederation took place. For the composed of some elected and some nominated members. There is a very and colonies joined the confederation, see the beginning of this article, ment throughout the Dominion, and The listory of Canada after the War

of Independence is characterised by use, no method was known of transthe removal of all commercial preference from her in the English trade, and the gradual gaining by her of complete autonomy. Since the time of the confederation the Canadian government has obtained in 1879 the right to give a preference in tariffs to another colony, in 1881 right of representation wben treaties concerning her interests are being discussed, and in 1897 the right to demand that a treaty which she considers inimical to her interests should be abrogated. Riel led two rebellions of the half-breeds in 1869 and in 1885; the second was the more lown, and

progress of

has been fairly rapid, and bas quickened up in late years, but the resources of the country are still practically un-touched. The growth of railways, however, is causing trade and manufactures to increase in every direction, and there is no doubt that a great future awaits Canada. Consult Marquis of Lorne's Canadian Life and Scenery, 1885; Professor Goldwin Smith's Canada and the Canadian Question, 1891; and the poems of Messrs. Bliss Carman and Robert Surface.

Canada Goose, or Bernicla canadensis, a species of the Anatidæ or duck family which is common to N. America. It is a wild goose which sometimes breeds in Europe, and it is closely related to the Barnacle

Goose (q.v.).

Canal (Lat. canalis, a channel), an water - course serving the purpose of drainage or irrigation, or more frequently for the transporta-tion of merchandise in boats, barges, or ships. Cs. have undoubtedly been in existence since very early times. Herodotus and Strabo both speak of a C. across the isthmus of Suez which was begun in 616 B.C. by Nechs and completed by the year 521 B.C. The first use to which Cs. were put was doubtless irrigation, but navigation soon followed. In ancient Egypt, or a tunnel, or a downward slope by India, and China Cs. undoubtedly an embankment or an aqueduct. The existed; in Egypt the Nile has from channel of the C. has a flat bottom time immemorial been noted for its and sides which slope outwards from extremes, and which the and structed still re:

and crossing the minates at Lin

and the sphere of usefulness of the C. was thus limited. That which did more than any other invention to revolutionise C. traffic was the invention of locks. It is not certainly known to what individuals or even to what nation we are to ascribe the honour of this discovery; according to some authorities the Dutch were the first to make use of locks, according to others the Italians. A lock chamber enclosed by a pair of gates was said to have been constructed by two brothers Domenico in 1481, and Leonardo da Vinci six years atterwards completed six locks which united the Cs. of Milan. The Languedoc C., or C. du Midi, may be looked upon as the prototype of modern European Cs. This C. connects the Bay of Biscay and the Mediterranean. It has a length of 148 m., and there are 119 locks, which have an average lift of 6½ ft. The Cs. of some time ago were only available for barge traffic or boat traffic, but gradually the size increased until, with the growth of commerce and the increase in engineering skill, Cs. have been constructed to take ocean going ships. The more notable of these will be later considered, but some idea of the requirements and points to be considered in inland Cs. may first be given. engineer is not so free in the elicice of the route for a projected waterway Water as is the railway engineer. radient. will ta e the C. iiowev must allone lovel, which is very rarely feasible, or the rise and fall of the surrounding country must be adapted in some way. This is done by the construction of a series of level reaches at varying beights above a datum line; each reach is closed by locks. The bases of the hills and the winding of the valleys must provide the general route for these reaches, but at various places it will be found necessary to cross an upward slope by a cutting T. - 44 - 'n. In districts the soil of

ferring boats from one level to another.

ot calculated to withstand of the water, it is necessary ides should be lined with This is the name given to a of tempered clay mixed r, which is worked into the distance of 2 or 3 ft. 1

The total length is about 650 m., Sometimes the sides are faced with but the depth is seldom more than stonework or concrete where there is 6 ft. Though it is thus seen that much traffic, and durability is the Cs. have heen in existence for many main consideration. As regards the years, and were undoubtedly of some water supply for a C., it is, of course,

Grand C. of Chir it commences a

mouth of the T

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cient water to supply the C. throughout the year if it is to be a profitable and useful undertaking. If the natural supply cannot be depended upon, reservoirs must be built which will hold sufficient. The situation, catebment area, etc., of such reservoirs will be governed by the same considerations as in reservoirs for drinking water, save that the cleanliness of the water is not so essential. Apart from the disadvantage of interrupted traffic to which an insufficient supply of water renders a C. liable, the erosion and damage to the sides are much greater when the C. is being worked on too small a supply. The dimensions of a C. are naturally regulated by the size of the boats which are used thereon. In order the water that the resistance of should be as small as possible, a table of various measurements has been ealeulated. According to this the breadth of the C. bottom should be at least twice as much as the greatest at least twice as much as the greatest hreadth of the hoat using the C: the depth of the water in feet should be at least one and a half times the draught of the boat; and the area of the waterway should be six times the greatest midship section of the boat. The width of an ordinary inland C. in this country is from 25 to 30 ft. at the bottom, which is flat, and from 40 to 50 ft. at the level of the water. The depth is about 4 or 5 ft., and the angle of slope of the sides varies with the nature of the surrounding soil. A C. must be able not only to supply any deficiencies in the natural water supply, but must also cope with a too abundant quantity; for this purpose a number of waste weirs to discharge surplus water are necessary. If any portion of the bottom or sides of a C. is defective, it is obviously impossible to run off all the water in the canal while repairs are being carried out; the damage must be confined. For this purpose stop-gates are necessary at short intervals. are made on the same principle as a lock, or in smaller locks they are made of planks; the two stop-gates on each side of the place which is to be repaired are closed, and the water in that particular section is then run off by means of off-lets, pipes running along the bottom of the C. and fitted with valves. By this means any repairs can be effected with but slight delay and inconvenience to the general traffic of the C. The locks. which are the most general means of transferring boats from one level to another, are chambers made of wood.

essential that there should be suffi-i vessels which use the C.; it is placed at the termination of the lower reach. and rises to a slightly greater height than that of the water in the upper reach. The gates of the lock, which are very strongly made, open against the direction of the current, and are slightly more than half the width of the lock chamber, so that they meet before they form a straight line, and are kept firmly in place by the pressure of the water. Sluices are placed in each gate near the bottom, and can be worked from the top of the lock independently of the gates themselves. When a best wides to second scives. When a boat wishes to ascend from a lower to a higher reach of the C., the upper gates and sluices, commanding the flow from the upper reach, are closed. The sluices at the lower end of the lock are opened, and when the level of the water in the lock chamber is the same as that of the lower reach, the boat enters the lock. The lower gates and sinices are then closed, whilst the shices only in the upper gate are opened. The water in the lock then gradually rises until it reaches the level of the upper reach, when the upper gates can be opened and the boat passes out of the lock into the higher reach. When a boat descends from a higher reach to a lower, the procedure is reversed; the vessel enters the lock when the water is at the higher level, and after the lower gates have been shut and the sluices opened, passes out on the lower reach. In large locks the sluices may be carried through the walls instead of being in the gates. material of which the gates are composed is generally hardened oak; in small narrow locks a single gate at each end is sufficient. The gates are each end is sufficient. The gates are opened and closed by balance beams projecting over the lock side, which are worked either by gearing or by a hydraulic ram. The locks are not nuch larger than the vessels they are required to take. The English C boat is from 70 to 75 ft. long and 7 or 8 ft. wide; a barge is the same length, but double the width, fefrom 14 to 15 ft. The average lift of a C. lock is from 8 to 9 ft., sometimes as low as 11 ft. In Belgium. on the Canal du Centre, the locks have a lift of 17 ft., whilst one lock on the St. Denis C. has a lift of 32½ ft. When there is a very big difference in the levels of the two reaches of the C., it is sometimes overcome by a flight of locks, in which the lower rates of one lock form the higher gates of the one below it. On many of the English Cs. an inclined plane is placed at the side of the lock for the brickwork, etc., and provided with use of pleasure houts; the boats are gates at each end. The lock is of placed on the rollers which form the sufficient size to take the largest plane, and hauled over by hand. The

Mercey at Runcorn Gap, one going to boats which will enter the locks, of

liable to strain the timbers, etc., of large vessels, a more common arrangement is for two counterbalancing tanks to be used. Each of the tanks holds sufficient water to float a boat. two lines of rail are used, on which the tanks run, and they are connected by chains running on pulleys in such a way that as one ascends the other descends. Vertical lifts are also employed on some Cs.; they are only used where the difference in the levels of the reaches occurs in a short length of C. to obviate the construction of cmbankments, etc. At Anderton there is such a lift, which deals with barges as much as 100 tons burden, and has a lift of 50 ft. The horse is still used for haulage on the smaller Steam towage was first intro-Cs. duced about the beginning of the 19th century, but tugs towing a string of barges are only practicable when there are no locks on the C., or when the locks are so constructed as to take the tug and all the barges at the same time. If the vessels have to be taken through the locks separately. the time which is spent in going through the locks more than counterbalances the time gained on the rest of the journey. Latterly harges having a steam engine of their own are being utilised; on a portion of the Teltow C., in Germany, an electric system of traction is in use. The speed at which the least expenditure of energy is necessary is the speed of free prois necessary is the speed of tree pro-pagation of the primary wave raised by the motion of the boat. This fact was taken advantage of by the fast passenger burges which used to run on some Cs.; when the wave had attained a fair speed, the boat was jerked forward and travelled on the away the sides of the C. much quickly, and the water is distr Manchester. The work was successfully accomplished by Brindley, the be imitated in many other countries engineer, who overcame all the difficults. There are immense crobank- all Cs. must have a depth of 6‡ ft., ments on the old C., vinducts, and locks 1264 ft. by 17 ft., and a space bridges; two branches went from the under bridges of 12 ft., thus enabling

barges, but as such a method is

same principle is sometimes used for | Manchester, the other to Pennington. The length was 40 m., and the fall 2 ft. in a mile; the waterway was 5 ft. deep and 52 ft. wide. The successful accomplishment of this work encouraged others, and before the introduction of the railways the length of the navigable Cs. in Great Britain was estimated at 3000 m. On the Continent more importance is now attached to the utilisation of Cs. Belgium occupies a foremost placo in inland navigation; it has a length of Cs. amounting to 1360 m., which is 1 m. of waterway to every \$1 m. of territory. £16,000,000 has been spent on the improvement of Cs. and ports during the last twenty-five years, and the result has shown it to be an enlightened policy. Trade has been materially benefited, and barges with u tonuage of 3,686,585 cleared from Antwerp in the year 1902. Germany also has realised the importance of water transport. An increase of 28 per cent. was recorded between 1877 and 1879 in the number of the boats trading on the inland waterways, and an increase of 143 per cent. in their carrying capacity. The policy of expenditure on the Cs. is still being followed, and the number of steam C. boats has largely increased. Owing to this increase the cost of transport per mile and ton is under a farthing. Austria-Hungary also has spent more than £10,000,000 on waterways in the last ten years; a system of Cs. which will connect the Danube, the Oder, the Moldau, the Elle, and the Weichsel rivers has been inaugurated. Since the days of the first C. in France, which was constructed between 1605 and 1641, the French have on the whole been keenly alive to the advantages of this method of transport.

The second C. ever constructed in top of the wave. By this means a France joined the Bay of Biscay with speed of 12 or 15 m. an hour was the Mediterranean, and was thus the attained. The ordinary speed of a forerunner of the modern ship Cs. horse-drawn C. bont is from 2 to 11 is only 64 ft. in depth, however, 3 m. an hour; if an excessive speed and thus is not adapted for the is attempted, the wave raised washes account. The French governveloping the railways for a long distance along the England was one of the last na... and there are about 3000 m. to make any use of Cs. The first C. of Cs. in France and 2000 m. of was that connecting Manchester and canalised rivers. Many of these waterwas that connecting Manchester and candised rivers. Many of these water-Worsley, which was proposed by the ways are maintained entirely by the Duke of Bridgewater in 1755. The use for which the C was designed was renear that the transportation of the coal from law to secure the uniformity to the the duke's collieries at Worsley to dimensions, etc., of the principal Cs.; this is an excellent step, and might

and now the locks are 270 ft. in length, 45 ft. in width, and 14 ft. in depth. The Chesapeake and Ohio C. was hegun in 1828, and hy 1850 extended from Georgetown on the Potomac to Cumberland, a distance Potomac to Cumberiand, a distance, of 186 m.; its completion as far as Pittsburg on the Ohio has not yetheen effected, although proposed. The Eric C., which connects Lake Eric with the Hudson R., is 365 m. in length; the width at the hottom varies from 53 to 79 ft., that at the surface from 70 to 98 ft., whilst the depth ranges between 7; to 9; ft. The Delaware at Philipshurg and the Hudson R. at Jersey City are connected by the Morris C., which crosses a spur of the Alleghanies by a system of inclines; it is 102 m. in length. The present length of Cs. in the United Kingdom is 3907 m., as against 7459 m. in France, 6214 m. in Germany, and 1360 m. in Belginm. Of the Cs. in the United Kingdom 3167 m. are in England and Wales, 586 m. in Ireland, and 154 m. in Scotland. About one-third of the total mileage of Cs. belongs to various railway companies. The largest Cs. of 186 m.; its completion as far as railway companies. The largest Cs. in Great Britain are the Caledonian C., the Crinan C., the Forth and Clyde C. in Scotland, and the Gloucester and Berkeley C. in England. The Caledonian C., constructed by Thomas Telford, is remarkable for its locks,

Canal

ahont 300 tons burden, to travel of the C. in the year 1904 were along all the principal French Cs. £7746 11s. 4d., and the expenditure The Russians have also an extensive £7834 4s.; in the same year the system of Cs. which links up their Crinan C. also showed a surplus of receipts over expenditure amounting connected by a large C., and it is proposed to connect the Volga and the Neva are connected by a large C., and it is proposed to connect the Volga and the Evolution of the Don. In America there are numerous Cs. which connect the separate river navigations. The St. Lawrence Cs. between Lake Ontario and Montreal, and the Welland C. join Lake Eric and Montreal. The size of these Cs. has heen increased. There is no doubt that a comparison of the Cs. and the railways is in favour of the former. A C. ship of 600 of the Cs. and the railways is in favour of the former. A C. ship of 600 tons hurden will transport as much goods as sixty railway waggons, is one-third cheaper in carriage per ton, costs less for working, and requires only one-thirtieth of the hauling power necessary on level railroads. Slowness and unpunetuality are the drawhacks, and in winter the stonpage of traffic by ice. The former can be avoided when each barge has its own motive power, steam or electricity; and ice could he prevented from forming by small steamers which could lneessantly patrol the C. in frosty weather. These points were seen as early as 1883. In that year General Rundall, then Inspector-General of Irrigation to the Government of India, presented a memorandum to the Select Committee on Canals, in which he groups the measures necessary for the development of the Ca. under the following three heads: (1) Improvement in construction, including uniformity of gauge in Ca. and locks, and their adaptation to steam haulage; improvement in the construction of C. hoats; and facilities for loading and unloading at important industrial centres. (2) Amelioration of administration, including the regulation of tolls, the establishment and maintenance of through rontes, and the General of Irrigation to the Governtenance of through rontes, and the formation of a systematic service of Tellord, is remarkance to the hoats. (3) Controlling supervision, Gotha C. at Trolhätten. The length which includes the questions of of the C. from its southernmost point amalgamation and control by a control to its north-eastern tericentral anthority. These are very at Corpach to its north-eastern terminus at Clacknagarry on the shore of Beauly Firth is 60 m. Of this distance 37 m. are taken up by four naturally navigable fresh-water locks which are connected by a series of Cs. whose united length is 23 m. The connecting Cs. are 50 ft. in width at the bottom, 120 ft. at the top, and trust, with government guarantee. 20 ft. in depth. Owing to the increased size of such vessels, the Caledonian C. cannot he used by large merchantmen, but it still facilitates the passage of fishing hoats between present the proprietors of English Cs. the E. and the W. coasts, and has are common carriers, and governed heen very heneficial for local trade by vessels of hetween 500 and 600 Traffic Acts of 1854 and 1858. These tons. The receipts on the working

public by settling and publishing rates for carriage and providing facilities The Cs. which for transhipment. have been acquired by railway companies come under the same regulations as the railways; the owners are required to afford the same facilities for traffic on the railway and the C. If a C. is nnnecessary, or if the pro-prietors leave it in an unfit state for navigation for the period of three years, the Board of Trade may years, the Board of Trade may anthorise the proprietors to abandon the C., which may then either be abandoned or handed over to other proprietors. The sanitary condition of C. boats when used as dwellings, and the registration of such vessels by the local sanitary anthorities are provided for by the Canal Boats Acts of 1877 and 1884. The local sanitary authority numbers the boats and anthority numbers the boats and marks them in a conspicuous place: it has also the power to regulate number, age, and sex of persons who are permitted to live in a boat, and in cases of infections diseases the Public Health Act of 1875 may be enforced. C. companies may establish schools for the children in C. boats: the education of such children is assumed to be as if residing in the place of registration of the C. boat. The Local Government Board appoints spectors, with similar powers to those of the poor law inspectors, to see that the law is duly carried out, if the provisions of the Canal Boats Acts are not complied with, both masters and owners are liable to fines re-ceverable on summary conviction. The Education and the Local Government Board are obliged to report ou the execution of these Acts to parliament annually. Ship canals.—Several Cs. which

are of much larger dimensions than the inland waterways, and are designed to admit large ocean-going vessels, have been constructed o. recent years, and still others are in course of construction. These Cs., which are naturally called ship Cs., are constructed with one of two purposes. They are either designed to place inland towns in communicaby cutting across an isthmas. The Manchester Ship C. and the Amsterdam Ship C. are the best examples of the former class. the former class, and a short account may be given of them. The Amsterdam Ship C. severs the peninsula of N. Holland and nnites the Zuyder Zee with the North Sea, but its real object was to allow the trade of Amsterdam a more direct ontlet, as the N. Holland C. and the Zuyder Zee were too shallow. Only a narrow strip

reasonable manner for the needs of the of land had to be excavated between Velson and the North Sea, as the direct ronte passed through Lake Y and Wyker Meer. Banks were formed along the C. by the soil which was dredged from the bottom in order to deepen the C., and by this means a considerable extent of territory was reclaimed from the sea, and so a portion of the cost was realised. The a bottom width of S8 ft. and a width at the water-level of 186 ft., and a depth of 23 ft.; it is 16½ m. in length. The level of the C. is kept only 1½ in. above low water in the North Sea in order to maintain the drainage of the reclaimed lands. The inflowing water from these lands and from the branch Cs. is pumped into the Zuyder Zee by pumps situated in the dam which shuts off the C. from the Zuyder Zee. The entrance channel is protected by two converging concrete breakwaters, and the C. is controlled by locks near each end with gates pointing both ways. The C. was begun in 1865, and finished in 1876, at a cost of about £2,600,000. The Manchester Ship C. was first discussed in 1882, and although it met with great opposition parliament from the railway interests, after much discussion the desired Act was obtained and the C. sanctioned in 1885. By the Manchester Ship Canal Act the old Bridgewater Navigation Co. was handed over to the new company for the sum of £1,710,000, this including the sum for the purchase of the Mersey and Irwell Cs. One of the greatest obstacles to the construction of the C. was the large expenditure necessary on account of the numerous bodies which possessed vested interests on the line of ronte; in addition to the sum mentioned above as paid to the Bridgewater Navigation Co., £1,214,451 was paid to various anthorities for land and compensation. The C. starts at Eastham on the eft bank of the Mersey, and after skirting the shore of the estnary as far as Runcorn, follows almost the same course as the Irwell, higher up, till it comes to an end at Trafford Bridge in Manchester. The 354 m. of the C. may be divided into three sections: from Eastham to Runcorn, a distance of 12½ m.: from Runcorn to Latchford, a distance of 8½ m., where it is inland, but the level of the water is raised by the tides as in the first section; from Latchford to Manchester, a distance of 141 m.; in the last section the locks at Latchford stop the tidal action and the C. is fed by the Mersey and the Irwell. The three tidal locks at Eastham have chambers 600 ft. by 80 ft., 350 ft. by 50 ft., and 150 ft. by 30 ft.; the sills

28 ft., 25 ft., and 16 ft. below the Lesseps' resorting to a locked C. It normal water-level of the C., so that was to have a width at the bottom of vessels cau euter and leave at about 72 ft., and at the top of 160 ft., and half-tide. The lift of these locks is a depth of 27 ft. save through the 16½ ft. The Manchester Ship C. is rock entting of the Culebra, where the right have some structed with locks raising vessels 78 ft. and at the top 92 ft., with a 60½ ft and carrying them inland, so depth of 29½ ft. The schemo fell through however, and the company ove it. and carrying them mland, so depth of 29½ ft. The schemo fell turning an inland city into a port. The time taken to pass through the became bankrupt; the C. was there. C. is about seven hours, including ahout half an hourfor passing through is the locks. The swing aqueduet for the locks. The swing aqueduet for the distribution of the Bridgewater C. is one of the most stimated at \$200,000,000, including the Bridgewater C is one of the most \$40,000,000 pald to the French C. notable features of the C.; it was constructed by Sir E. Leader Williams public of Panama for the concession to replace Brindley's fixed anueduct. It was agreed that the C. should be to replace Brindley's fixed aqueduct. When the aqueduct is closed traffic | can pass along the Bridgewater C., but] it is opened for the passage of masted | vessels along the ship C.; communica-tion between the two Cs. is main-tained by a hydraulic lift. The C. was commenced in 1887 and finished in Ship C., which renders Bruges a seaport the Ghent-Terneuzen C., which
provides a new outlet for Ghent by
a C. joining the estuary of the Scheldt Baltie near Kiel, but is only 51 ft.
at Terneuzen. enlarged and deepened
in 1870 so that vessels of 1400 to
1870 tons can reach Ghent; and the
St. Petersburg and Cronstadt Ship
C., which enables sea-going vessels to
1870 tons can reach Ghent; and the
St. Petersburg. This C. starts
from the Nevn and goes
ahout 2 m., when it curve
ceeds in a straight line to
1873 at a cost of 1874 and 1875 and 1 1894; the cost was estimated at £5,330,000, but in reality came to £15,500,000. Among other Cs. of this the Bottom of Latter three to the was the success and the Bottom of Latter between in 1877 and i.

1884, at a cost of £1,240,000. The three top, and depth 28 ft is 1884, at a cost of £1,240,000. The three top, and depth 27 m., was to chable ocean-going ships to use a begun in 1887 and finished in 1895 shorter route was the Suez C. This at a cost of about £8,000,000. Of latter connects the Mediterranean with years many other schemes for ship the Bottom of the second of the s the Red Sea; it is about 100 m. long, and has a depth of 26 ft. The traffic has increased so much and the ad-route to the E. coast of India by vantages of an increased draught are entiting through the island of Ramesso evident, that the bottom width of waram and making a navigable the C. is to be widened to about 230 ebannel between Ceylon and India ft., and the depth made 29½ ft. In 1879

The Austrian, German, and Russlan M. de Lesseps, the constructor of the governments have discussed scheme; Suez C., brought forward a scheme of connecting the Atlantic and Pacific Oceans by a C. across the lattic Sea, utilising either the Pacific Oceans by a C. across the lattic Sea, utilising either the Islumus of Panama. The route which are proposed for the C. to take was the proposed for the C. to take was the proposed for the C. to take was the proposed, and schemes by isthmus, between Aspinwall (Colon) which sea going vessels night reach Paris and Brussels have been Introvas begun in 1882. It was to be 47 m. long, and the original intention of de Lesseps had been for the C. to be level throughout, like the Suez C. The increased cost, however, and the difficulty which was experienced in lating Suez C., brought forward a scheme difficulty which was experienced in ating raising funds for the carrying on of givin

of these chambers are respectively the work, were instrumental in de 28 ft., 25 ft., and 16 ft. below the Lesseps resorting to a locked C. It It was agreed that the C. should be open to all nations. In very early times it was proposed to build a C. aeross the Isthmus of Corinth, and traces are found of works for such an undertaking begin in the time of the Euperor Nero. The C. was begun in 1882 and finished in 1893, at a cost of between £1,000,000 and

Cs. have been brought forward. has been proposed to shorten the route to the E. coast of India by for a C. between the Black Sea and other ideas will doubtless he heard of, in length, while the wild variety is and although all of them may not only from 4 to 5 in long. The wild be practicable, the increase in the C. builds its nest of moss, feathers and interest taken in the question is a hair in thick, high shrubs or trees, good sign. It shows that though railways have affected the prosperity of inland waterways, the advantages of the latter are being more clearly seen, and the immense ntility of ship Cs. is now clearly recognised. A Royal Commission to inquire into the whole question of Cs. and Waterways was appointed in March 1906. This commission was presided over by Lord Shuttleworth and issued its final re-port in December 1909. It recom-mended that Great Britain should follow the example of Germany and France in rescuing her Cs. from the decay into which they had fallen. The commissioners suggested that to aequire the network of waterways which joined the rivers Humber, Mersey, Severn, and Thames with the Midlands. They should be improved at the cost of £17,500,000, and the annual expenditure on the npkeep of Cs. should be raised to £1,000,000.

Canale, Antonio, called Canaletto (1697-1768), a Venetian painter, first distinguished himself by painting decorations for theatres. In 1719 he went to Rome to study the works of the old masters, and on his return to Venice painted many views of that city. He was the creator and per-fecter of a school of his own, being the first to achieve mathematical pre-eision of architectural line combined with artistic merit. His perspective was exceptionally good, and the tone and simplicity of his best work cause him to take a high place among the painters of the 18th century. He paid a visit to London in 1764, and painted some views of the city. The Louvre has six of his pictures, the National Gallery eleven; examples are also to be found in the Wallace Collection, London and at Edinburgh and Dublin.

Canara, see KANARA.

Canara, see RANARA.
Canary Bird, or Canary Finch
(Serinus canarius), a well-known
passerine bird of the family of Fringillidee or Finehes. It is found in large
numbers in the Canary Is., Madeira,
and the Azores, but has been domesticated in Europe since the 16th
tentury and is one of the mest. century and is one of the most In its wild common of cage-birds. state the plumage is green, sometimes streaked with brown, and resembling a linnet and siskin, the prevalent yellow of the domestic species being the result of artificial selection for breeding purposes. The artificial breeding purposes. The artificial selection has also resulted in increasing the average size of the bird, the domestic variety being from 6 to 8 in.

and produces two or four broods in a season, but it breeds readily in confinement, sometimes laying from four to six eggs, pale blue in colour, four times a year. The work of building the nest and of incubation is generally the part of the female, while the cockbird usually feeds the young. The natural song of the C. is loud and elear, and during the mating season the males seem to compete with one another in the ardour and beanty of their melody. It can be taught various notes, and readily imitates the notes of other hirds. Their chief foods are canary and millet seeds; grounsel, chickweed, and sugar are appreciated a Waterways Board should be formed luxuries. Cs. mate readily with and

> grol. The chief varieties of the domesticated C. are the Norwieh, which is the hardiest, and of a very rich eolour; the Belgian Fancy, the most beautiful and costly; the Lizard, so called from its spotted back; the Cinnamon, so named from its colour; the Yorkshire, a long thin, closely feathered bird; the Lancashire Coppy, the largest variety, with a erest of feathers on its head; the London Faney, a little yellow or biscuit-coloured bird with black wings and tail; the Scotch Fancy, a large imposing variety, bred largely in Scotland; and the Roller C., a very small bird, bred chiefly for its unusually beautiful song. There are several beautiful song. There are several varieties of Finehes very elosely allied to the C., and often sold as such, but they are generally very inferior as song birds. Canary Islands (from Canar, Berber

. is a

name of an African region), thirteen Islands in the Atlantic Ocean. They are of volcanie origin, and form a province of Spain. The prin-eipal islands are Teneriffe, Grand Canary, Palma, Ferro or Hierro, Lan-zarote, Gomera, and Fuerteventura; the other six are exceedingly small: Graciosa, Rocca, Allegranza, Santa Clara, Inferno, and Lobos. their position, and their nearness to Africa, they probably form a continuation of the great mountain system of N. Africa. The islands are all of a rugged and mountainous character, the chief peaks being those of El Cumbre in Grand Canary (5812 ft.) and the Peak of Teydein Teneriffe (12,182 ft.). They are most healthy, as during the summer and autumn there is hardly any rainfall; the rainy season lasts from November to March. The products of the Canaries are snbtropical in character; the vine, the De secretariis veterum christianorum sugar-cane, and wheat, maize, and et basilicæ Vaticanæ, 1786; Bibliotobacco are grown. Such fruits as thegue pompéienne, 1813; Les sept tomatoes and bananas are largely cultivated, especially in Tenerific and Grand Canary, for export to the British markets, the value of the bananas exported in 1903 heing £375,850, and that of the tomatoes £182,000; potatoes to the value of £30,886 were also exported. Among the other exports are tobacco, cochineal, sugar, and petroleum. principal pursuits of the inhahitants are agricultural, but some fishing is earried on, there are sugar and tobacco factories, and lace and emhroidery are made by the women. The principal ports of the group are at Las Palmas, in Grand Canary, and Santa Cruz de Teneriffe. The popula-

The islands were first discovered in 1334, and taken possession covered in 1334, and taken possession of in 1402 by Jean de Bethencourt, a Norman, who gave up his title to them in favour of the King of Spain. In the map which Andreas Bianco published in Venice in 1436 the position of the Canaries is given very accurately. The Spaniards did not consider the islands of much importance, as Henry the Navigator of Portugal took possession of them, and went exploring from them along and went exploring from them along the coast of Guinea. In the year 1478 the Spaniards determined to regain possession of the group, and by the end of the century they had completely conquered the original inhabitants, and were masters of the whole of the archipelago. Pop. about 400 000. See Madistand the Congression 1889. etc.

Seed, the sced of the Canary grass (Phalaris canariensis), which grows in the Canary Is. It is cultivated as a food for cage birds, and in the Canaries, Barbary, and Italy is sometimes used as a substitute for wheaten flour.

Cancale, a small tn. in the French dept. of Ille-et-Viloine, situated 8 m. N.E. of St. Malo. It is celebrated for its oysters. Pop., including the port

French historian, born at Rome. He was made director of printing at the Propaganda in 1802. His literary choses fatales de la Rome antique, 1812.

Cancer (Lat. cancer, Gk. καρκίνος), in zoology, a genus of the crustacean family Cancridæ (see CRAB); in astronomy, a constellation repre-sented as a sign of the zodiac by a crab, its chief importance lying in the fact that it denotes the northern limit of the sun's apparent course in the heavens in summer: hence the Tropic of Cancer (see Tropics) is that meridian on the earth's surface marking the nortbern houndary of the latitudes where the sun has at any time an altitude of 90°; in pathology, any malignant growth, but specifically applied to a tumour technically

termed carcinoma; plural carcinomata. A C. consists of a stroma, or framework of connective tissue surrounding nests of cells of an epithelial type, that is, similar to those cells which form the outer skin lining of all canals which have communication with the external air. Epithelial cells differ in nature according to their function, which may be merely protective, or secretory or glandular, and Cs. may he classified according to the structure and nature of the cells which composo them. Adenoid C.. or adenocarcinoma, consists of columnar or tubular cells, and occurs most commonly in the stomach and intestines. Colloid C. consists of cells which undergo rapid degeneration into a jelly-like mass; it affects usually the alimentary canal, uterus, etc. Cylindric is a name given to a C. where the cells assume a cylindrical shape. Encephaloid C. is a soft C. containing a relawhoic of the arcmpelago. Pop. about 1900 C. 18 a soft C. containing a relation, one Modeira and the Canary tively small amount of stroma and a Islands, by A. S. Brown, sixth ed., greater amount of cells and blood-1901; History of the Canary Islands, vessels. Glandular C., one in which by G. Glas, 1764; Tenerife and its the cells are of a secreting type. Six Satellites, by Olivia M. Stone, Scirious C., or hard C., consists of a stout fibrous stroma and closelypacked cells; it occurs most com-monly in the breast. Squamous C., one derived from a scale-like mass of cpit helium, with cells cuboid in shape. Different varieties of C. differ in their rate of growth; in general it may be said that soft Cs. show the greater activity. The symptoms in the early stages of a growth are not usually very reliable. If the location be internal it may painlessly develop until of La Houle, 8000. cither its great size interferes with the Cancellier, Francesco (1751-1826), proper functioning of some organ, or

activities were varied, and many formation of an internal C., and there rolumes of memoirs, pamphlets, lee; is a more definite symptom in the tures, etc., were produced by his ready 'gellowish pallor which is to some pen; his compatriots named him extent characteristic. An external 'the new Varro.' His works include: growth occurring on the breast, lip, not too much to say that any ahnorete. The chewing of betel-unt, and mal swelling should be attended to the eating of hot rice in China have without delay, as the surgeon's only been shown to be associated with hope is early operation. The need for cancerous growths. Statistics have a certain amount of care in this mat-ter should not occasion alarm: be-tracing any possible connection be-cause although on the one hand the tween certain varieties of diet and C., indefinite nature of the early symp-land although statements have been toms and medical lack of knowledge of the nature of cancer has caused its name to be universally dreaded, it must not he forgotten that the chances are enormously in favour of any slight manifestation ultimately being traced to a much less serious condition. The only successful treatment, np to the present time, been removal by operation. T has There have been cases where the progress of the disease has been stayed, and even cases where ultimate recovery has followed some other treatment, but unfortunately such cases have not yet led to a general cure. When removal is impossible or hopeless, the treatment aims at alleviating pain: and sometimes operation is resorted to with no further end in view than to temporarily relieve the patient. The cause of C. is still unknown. It is probable that many different causes may operate, and good work has been done in investigating probable causes by researches conducted under the auspices of the Imperial Cancer Re-search Fund. The ahle administration of this fund and the unselfish co-operation of medical men and scientists throughout the empire has led to the accumulation of a body of statistical and experimental knowledge, which, though it has had no very definite results, has put the inquiry on a proper footing. Many investigations have been conducted with a view to finding a specific micro-organism for C., hat without satisfactory results. The arguments appropriate the second state of the second committee to be the about of infecsomewhat difficult to understand how

tection. Cases are quoted, too, which appear to show that an embryo nterus may be discased, and on the other hand, a child may be born from

or tongue should be promptly ex- peculiarly liable, was probably caused amined by a medical man, and it is in part by the irritating effect of soot. made about fish-eating people and rice-eaters as being peculiarly liable, they probably do not represent a sub-stantial part of the truth. With regard to the question of heredity, more satisfactory information has heen obtained through long extended experiments with many generations of mice; and it has been established that mice with a cancerous ancestry are more liable to C. than those born from a healthy line. It is only when information is gathered upon the comprehensive scale adopted by the Imperial Research Fund committees that reliable statistics can be obtained. With the collaboration of the various governments of the empire, the incidence of C. among different races and for different limits of age has been studied. One of the most encouraging conclusions from these statistics is that the supposed alarming increase in C. cases has no foundation in fact; as regards the lower ageperiods a decrease is reported.

Cancer, the name of a genus of decapod erustacean to which belongs C. pagurus, the edible crab. The species live in pairs in holes of rocks.

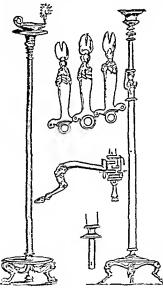
Cancer, or The Crab, the fourth of the twelve constellations of the zodiac. denoted by the sign \$\infty\$, and marking the limit of the sun's course northward in summer. It contains a large, loose einster of stars known as Præsæpe, the Beehive, which appears as a nebula to the naked eye, and & Caneri, a triple star whose two close stars revolve about each other in a period of sixty years, and a third which revolves about the other two. in the opposite direction, in seventeen and a half years. The latter has an the hypothetical organism picks out irregular motion, which leads to the

invisible body which itself around the other two stars. Cancer, Tropic of, see TROPICS.

Cancionero, a Spanish (and Portuescapes the disease although the guese) word used to describe a collection of early lyrical poems, especially such a collection as was made by the a healthy womb with C. developed at poetic guilds which flourished in the an early period in its fætal life. The middle ages. The oldest is that of effect of irritation in the formation of John Alphonso Baena, a converted cancerous growths has been widely Jew, who was secretary to John II. discussed. There is no doubt that Its poems helong to the 14th and 15th is retired at least a gradient of the secretary to the secretary the secretary to the secretary the secretary to the secretary that the secretary the secretary the secretary to the secretary the secretary the secretary to the secretary to the secretary the secretary the secretary to the secretary to the secretary to the secretary the secretary that the secretary that the secretary than the secretary the secretary the secretary the secretary the secretary than the irritation is often at least a predis-centuries. A later C., attributed to posing cause, and chimney-sweep's Lope de Stuñiga, contains songs by C., to which sweeps at one time were poets who accompanied Alphonso V.

Candle

first Cancionero General (published in 1511) was that of Juan de Fernandez, emhracing lyries hy over a hundred writers, the earliest of whom is the Marquis of Santillano. The best known of the Portuguese collections is that of Dom Diniz (1279-1325). These books of poems are important because of the flood of light they throw on contemporary mauners and ideals. The word C. has also been used to describe a series of poems by different authors, which deal, however, with the same subject.



CANDELABRA

Cancroma, see BOATBILL.

Candaba, a tn. in island of Luzon in the Philippines, on the Pampanga, some 20 m. from Bacolor. Has textile industries and good fisheries near Candaha Lake. Pop. 14,585.

Candace, a queen of the Ethiopians at Meroë. She was promptly defeated by the Roman governor, Petronius, when in 22 B.C. she made an incursion into Egypt, and was ohliged to recognise Angustus as emperor.

of Aragon to Naples, and afterwards and 22 m. S. of the tn. of, Foguia in his imprisonment at Milan. The in Apulla, Italy. Pop. (1901) 6649.

Candelahrum (Lat. candela. candle), a large candlestick, and also a lampstand. Candelahra were used by the Romans for domestic purposes and also in sacred rites. They were generally made according to one design, with a hase formed of three or more feet of some animal, the shaft hranching off into arms which ended in spikes for candles or in flat discs from which lamps could be suspended. Specimens have been found Pompeii, Herculaneum, and Etruria. Some are beautifully wrought in various metals; others are more massive and are carved in marhle.

Candia, the largest city in the island of Crete; a name once given to the whole of the island. It is situated to the N. of Mt. Ida, almost in the centre of the northern coast. The city once was in the possession of the Venetians, from whom the Turks captured it in 1669 after a siege of nearly twenty-Hostilities between the one years. Mohammedan and Christian inhabitants have been frequent. Greece became involved in a war with Turkey on behalf of the Christian residents of the island, when for nearly a year C. was under blockade. The town is very picturesque with its bazaars and mosques and old Venetian fortifications. There are numerous exports, including scap, oil, dried raisins, and almonds: steamers run regularly to Constantinople, Athens, Smyrna, etc. Pop., which is mixed, Turks predominating, numbers about 22,000.

Candidate (Lat. eandidatus, white-bed, because Roman candidates wore white), the title given to any-. one who takes steps towards fulfilling his aspirations for any office, post, or honour, and especially one who is willing to stand in a parliamentary election. Technically there is no legal decision as to when the aspirant be-comes a C. Thus he is popularly recognised as such the instant he enters on an active campaign for the promotion of his object, whilst certain judges regard the appointment of the of his candidature. The Corrupt and Illegal Practices Prevention Act. 1883, gives the following definition of a parliamentary C.: Any person a parliamentary C.: 'Any person elected to serve in parliament, and any person who is nominated as a C., or is declared by himself or others to be a C. on or after the day of issue of the writ, or after the dissolution or vacancy in consequence of which such a writ has been issued.

Candelsh, see KANDAHAR.
Candelsh, see KHANDESH.
Candelsh, see KHANDESH.
Candelsh, a source of artificial light.
Candelsh, a source of artificial light.
Candelsh, a source of artificial light.
Candle, a source of artificial

made of spermaceti, paraffin, palm and cocoanut oils, and stearin. The methods of manufacture vary according to the material used. They are either dipped, moulded, or rolled. (1) Dipped Cs. are made as follows: A number of wicks of a suitable length are suspended from a frame, so that the distance hetween each wick is equal to ahout double the intended diameter of the Cs. to be made. The wicks are dipped in turn into a trough of melted tallow. This operation is repeated again and again, the tallow heing allowed to cool before a second immersion, until finally the required thickness is obtained. The outside edge is then smoothed and polished by machinery. (2) Cs. of spermaceti, stearin, and paraffin are usually steam, and paratin are usually moulded. For moulding Cs., a frame, holding together a great number of well-polished metal tubes, is used. Through the centre of each tube the wick is securely fixed; all the tubes are connected with a trough, so that when the melted material is poured into the trough, the tunes are filled simultaneously. The Cs. are left in the tunes to set hard. Moulding is now the most usual method of manufacturing Cs., as the whole process of pouring in and removing superfluous melted fat can he accomplished by machinery, and as many as a hundred Cs. can he moulded at one time. (3) Wax cannot be moulded, because in cooling it contracts to a great extent and sticks to the moulds. Wax Cs. are, therefore, hasted and rolled. The wiek is first dipped into melted wax, until a sufficient quantity has thickened round it; then the C. is well rolled between two flat pieces of smooth wood, before the wax has set. Formerly, wicks were made out of the pith of a rush, and later of cotton The imperfectly consumed portion of the wick had to he removed from time to time by snuffers, an instrument resembling a pair of seissors with a small hox attached into which the wick-ends fell. In 1825 Cambacères invented the plaited wick, which, when sufficiently burnt, mechanically falls outside the flame, and, hy contact with the oxygen of the air, becomes completely con-sumed. Wicks are now always mannfactured so that they are self-consuming and leave practically no ash. Tapers are made much longer than

some other solid fatty material, purposes in cases when the light of a enveloping a wick of cotton, flax, or linen thread. Until the middle of the 18th century, wax and tallow were the only materials employed in the manufacture of Cs., hut now they are made of spermaceti, paraffin, palm and coconut oils, and stearin. The and coconut oils, and stearin. The methods of manufacture vary according the control of the control of

Candleberry, Wax-myrtle, and Bayberry, are all names which are given to Myrica cerifera, a N. American species of Myricaceæ, which is allied to the bay-myrtle. The fruit, when ripe, is boiled, and yields wax which is manufactured into candles.

manuactured into candles.
Candle-fish, Oulachan, or Thaleichthys, the name of a genus of malacopterygious fishes of the family Salmonide; it is closely allied to the smelt. It inhahits the Pacific coast of N. America and contains so much oil—more perhaps than any other animal—that it will burn like a

candle.
Candlemas, the feast of the Purification of the Virgin Mary, eelebrated by Roman Catholies on Feh. 2nd. The festival gets its name from the fact that on that day there is a procession of candles, and those candles which will be required in divine service for the ensuing year are consecrated. The festival is also observed by the Church of England and by the Armenian Church. It has been compared with the Roman festival held in honour of Fehrua, mother of Mars, when candles were burnt; possibly the old custom was utilised by the Church and turned into a Christian ecremony. In Scotland, C. Day is the first of the quarterly terms, when interest, taxes, rent, etc., must be paid. The state of the weather at this time is said to determine that

'If Candlemas is fair and clear, There'll he twa winters in the year.' Consult Duchesne, Christian Worship, 1904; and Brand, Popular Antiquities, 1849.

of the year.

Candlenut, or Aleurites triloba, a tropical species of Euphorbiace which is grown on account of the oil and the dyeing properties contained in the nut. The flowers are large and white, and the fruit is the size of a walnut.

1825 Cambacères invented the plaited wick, which, when sufficiently burnt, mechanically falls outside the flame, and, hy contact with the exygen of the air, becomes completely consumed. Wicks are now always manufactured so that they are self-consuming and leave practically no ash. Tapers are made much longer than Cs. They have a thick, loosely-twisted wick, thinly covered with wax. They are used for lighting real dramatic force his sympathetic

drew to his church a very large congregation. After his first speech in the Assembly in 1839, he at once came to the forefront of those who later constituted the Free Church, and the part that he played in security the the Dignerities was carried to the church and the part that he played in security the Church and the part that he played in security the characteristics are considered. ing the Disruption was second only to that of his friend and leader Dr. Chalmers. Moderator of the Assembly in 1861, he accepted the principal-ship of New College, Edinburgh, in the following year. Although C. the following year. Although C. contributed not a little to theological literature. he is justly remembered as the practical and enthusiastic promoter of good causes; for he worked unccasingly to secure the union of the various dissenting Presbyterian sects. and the speedy advancement public education.

Candolle, Augustus Pyrame de (1778-1841),a celebrated Swiss botanist, born at Geneva, of an ancient noble Provencal family. He came to Paris in 1797 for the purposes of study, and published (1802) Astragalogia. Two years later he obtained his doctor's degree on the thesis Essais sur les Propriétés Médicales des Plantes Comparées avec leurs Formes Extéricures et leur Classification Natur-elle. He began to lecture in the Collège de Franco in the same year, and in 1805 published four volumes of the Flore Française, followed by six volumes in 1815. The French six volumes in 1815. The French government employed him to carry on research work in botany and agriculture in France and Italy during the years 1806-12. He was appointed to the professorship of botany of Mostrollier University (2010) at Montpellier University (1810-16), and held the same chair at Geneva lacere, occurs on the coast of the West (1816-41). C's most important work Indies, especially of Jamaica, and In was Regni Vegetabilis Systema Natu-woods of the mainland of S. America. rale (2 vols. 1818-21), which was re-issued under another name as Prodromus Systematis Naturalis Regni Vegetabilis (17 vols. 1824-73), to which he did not contribute more than the first seven volumes. valuable herbarium was bequeathed to his son, Alphonse Louis. Cousult his Mémoires et Souvenirs (ed. by his son in 1862) and De la Rive's De

Candon, a city in the Hocos Sur prov., near the W. coast of the island of Luzon in the Philippines. Has cotton factorics. Pop. 15,797.

Candy, see KANDY.

Candolle, 1851.

and Asia. It is noted for the peculiar others and give it a more showy six; a spiral nebula, discovered by appearance. The species are often Lord Rosse, 1845; and a cluster of cultivated in British gardens as herbs 900 stars of the eleventh magnitude. or small shrubs, annuals, or percu-

insight into character and life, soon | nials. I. amara grows wild in Britain, and receives the various names of wild, or bitter, C., clown's mustard, and sciatica eress; the term C. itself is said to have been derived from Candia in Crete. I. Alpina and I. Gibraltarica betray their habitat by their specific names; I. semperflorens and I. sempervirens are the broadleaved and evergreen C. respectively.

Cane, the name applied to several plants, but most properly to those belonging to the genus of palms known as *Calamus* from which rattan cancs are made. The stems of these plants are thin and reedy, and they are much used in bottoming chairs, in

All the plants which yield rattan come from tropical regions of Asia, Africa, and Australia. The sngar C. is really a grass which is cultivated in the tropics for the sweet juice it contains; its botanical name is Saccharum officinarum. The Cs. which are employed in making fishing rods are the pliant stems of the large grass. Arundo Donax

Canea, or Khania, the cap. and ehlef commercial tn. of Crete. situated on the north-western coast, 70 m. from Candia. The town was built on the ancient site of Cydonia by the Venetians, whose colonists settled here in A.D. 1252. The town was captured by the Turks after a two years' siege in 1669. There is a fine, though somewhat shallow, harbour, and a flourishing export trade in soap, oil, and wax. Pop. (1900) 21,025.
Canella, a small genus of Canel-

C. alba yields the C. bark which is used as a tonic and stimulant. bark is freed from its outer rind, is white in colour, and smells like cinnamon, whence it is also called white cinnamon.

Canelli, a com. in the prov. of Alessandria, Picdmont, Italy, 13 m. S.E. of Asti. Pop. of town about 3000.

Canelones, or Guadalupe, the cap. of the dept. of C., in the S. of Uraguay, 24 m. N. of Montevideo. Pop. of town less than 4000.

Venatici, ' Hunting Canes the Dogs,' a small constellation, added by Hevelius In 1690. They are close Candytuft, or *Iberis*, a genus of behind the Ursa Major, and near Crueiferæ which flourishes in Europe Boötes and Coma Berenices. The elief stars arc Cor Caroli, so named corymbs of flowers, in which the outer by Halley after Charles II., which is petals are of greater length than the, a double star of magnitudes three and

Canete, Manuel (1822-91), a con-

raise the standard of the drama of his country. Ho has also done much to make known the history of dramatic art in Spain, and to popularise the works of its dramatists. Among his works are: Unrebato en Granada, La Tragediallamada Josefina,

lyrics, odes, and letters. Cang, Cangue, or Kea, an instrument of punishment used in China. It is a ring or heavy wooden yoke, the weight of which varies according to the nature of the culprit's offence. The man's head and shoulders are nature of his offence, and the duration of his punishment. He is paraded through the streets, and finally left in some open thoroughfare, or at the city gates, till hissentence has expired, which may last for some weeks or even months.

Cangas de Onis, a small tn. of Northern Spaln, in the prov. of of considerable historic Orviedo: interest, and has in its environs numerous remains of Roman occupation. The famous abbey of Covadonga is

in its neighbourhood.

Cangas de Tinco, a tn. of Northern Spain in the prov. of Orviedo, engaged in farming, leather, cloth, and pottery industries.

Cange, Charles Dufresne, Sieur du (1610-88), a French scholar, horn at Amiens, and died in Paris. He was educated at the Jesuit College in his nativo town; became government treasurer in Amiens, and, in 1631, a parliamentary advocate in a study of C. devoted his life to the study of the parliamentary advocate in Paris. Du

igs show (3 vols.,

1678), which went through many editions, and was much enlarged by Carpentier and later by Faire (10 vols., 1884-87); Glossarium ad Scrip-tores Mediæ et Infimæ Græcitatis, 1688; and Histoire de l'empire de Constantinople sous les empcreurs français. 1657. Consult Fougère, français, 1657. Consult Fougère, Essai sur la vie et les ouvrages de Du

Cange (Paris, 1852).
Cange, a tobacco and brandy-producing dist. of S. Africa, about 20 m. N. of Oudtshoorn. It is famous for its magnificent eaves, where some of the finest stalactites in the world

arc to be seen.

Canicatti, a tn. on the Naro in Sicily, the neighbourhood in famous sulphur mines.

temporary Spanish writer. Ho was from canicula, a little dog), the dog for many years Spain's principal days; the period (July 24 to Aug. 26) dramatic critic, and has striven to during which Sirius, or the Dog Star, rises with the sun.

Canidæ, the dog family, which includes wolves, foxes, jackals, etc., constitutes the group Cynoidea of the Carnivora, and is placed between the cats and the bears. Huxley divided and | the species into two series, the Thovid, or wolf-like, and the Alopecoid, or fox-like, hut different zoologists favour various divisions. All members of the family are carnivorous, but some will eat vegetables and insects as well. They are cosmopolitan and nearly always hunt in packs; fastened into this cage, so that he is they are found abundantly in fossil unable to lie down or feed himself. state with many extinct species. The On the C. is inscribed his name, the number of teeth varies in the genera, but the commonest form is that with forty-two-three incisors, one canine, and four premolars on each side of the upper and lower jaw, with two or three molars on each side of the upper, three on the lower jaw. The origin of the domestic dog, Canis familiaris, is unknown, and wild dogs abound in S. America. Canis vulpes is the S. America. Cants vulpes is the common fox, C. lapopus the Arctic fox, C. dingo the dingo, C. vulpes the wolf, C. aureus the jackal, C. latrans the prairie wolf; Ictiquon venaticus is the bush-dog; Olocyon venaticus is the bush-dog; megalotis is a solltary African species; Lycaon pictus is the Cape huntingdog.

Canigou, The, a mountain of France, at the extremity of one of the lateral chains of the Oriental Pyrenees. is of granite formation and is clothed with vegetation almost to its summit, the orange, vine, chestnut, potatoes, fir, blrch, rhododendron, and juniper flourishing at their respective alti-tudes. Its ancient manganese mines arc still worked.

Canina, Luigi (1795 - 1856),produc- Italian architect and archæologist, scriptores born at Casalo in Picdmont. He was professor of arebitecture at Turin, then he went to Rome where he spent many years minutely and lahoriously studying its ancient buildings. The results of this work arc embodied in L'Architettura antica descritta e dimostrata coi monumenti, and in a topographical plan of old Rome. He also directed the excavations of Jusculum, Vcii, and the Appian Way; his writings are much valued throughout Europe.

Canis, see Dog. Canis Major, or Orion's Dog, a constellation of the southern hemisphere, below Orion. Its chicf star is Sirius, by which the constellation may easily be found, this star being on the extension of the linethrough Orion's belt. Canis Minor, a constellation of the

Canicula Days (Lat. canicularis, southern hemisphere, N. of Canis

on the line between Sirius and Pollux. Canister Shot, see CASE SHOT.

Canister Shot, see Case Shot.
Canitz, Friedrich Rudolf Ludwig,
Freiherr von (1654-99), a German
poet, born at Berlin. After a careful
education, completed by travels in
Italy, he held many posts of honnur
at the court of Berlin, and undertook a number of diplomatic missions. He was gentleman of the bedchamber to Friedrich-Wilhelm I., councillor of state under Friedrich I., and Leopold created him a baron of the empire. He wrote many satirical poems in the style of Boileau, with odes, hymns, and other poems. His Poetical Recreations were very popular in his time.

Canker. the name of a plautdisease which attacks fruit trees, such as the apple, and sometimes foresttrees, as is the case with the larch. It may usually be found to be present when the bark begins to split, or when the ripe fungus protrudes from the wounded bark. Many varieties of low plants may cause the discase, but the one to which most importance is attached is the Nectria ditissima, a fungus which usually attacks the new shoots, works gradually towards the trunk, and finally kills its host. When ripe it is white in the autumn and red in the spring. The best methods of curing the tree of C. are to ent off the diseased branches, or to cut out the affected parts, and to smear over the wound with an impermeable substance.

Cannabis Sativa, the hemp-plant, forms a genus of Moraceæ, or, according to some botanists, of a smaller order Cannabinaceæ. It is a native of Central Asia, and is cultivated both for the fibre known as hemp which it produces and for the drug it contains. The licing is made from the tough bast-fibres, and is used for making ropes and in weaving; from the resin it exudes hashish is made in the East. and bhang from the mature leaves, together with the resin they contain. The flowers are diecious, and resemble those of their near kindred, Humulus lupulus, the hop.

Cannaceæ, a monocotyledonons order of plants which is frequently united by botanists to Marantaceæ. It contains a single genus of plants, all of which are tropical or subtropical. C. indica (Indian shot) is a handsome ornamental plant often cultivated on account of its appearance. The inthree united petals; the fruit is a

Major. Its principal star, Procyon, lies, inner whorl bears a bilocular anther on its edge: of the petaloid structures. the staminodia, one is larger, turns hack on itself, and is known as the labellum. The gynæceum is inferior and consists of three carpels which are trilocular, have a petáloid style, and contain numerous ovules. Nearly all the species of Canna have a great deal of starch in their rhizomes, and arrowroot is made from C. edulis. This plant has large, tuherous roots, smooth leaves, and stems coloured at the base.

Cannæ, an anet. city of Apulia in Southern Italy, near the mouth of the Aufidus (now Ofanto). The town is celebrated for the great battle in Roman history when Hannibal inflicted a crushing defeat on the Roman army, led by the consuls Æmilius Paulus and Terentius Varro, 216 B.C.

Cannanore, a seaport and military station of the Malabar dist., Madras, British India; a British possession since 1791; exports pepper, timber,

grain, and cocoanuts. Cannes, a fashionable watering. place of the Riviera, in the dept. of Alpes Maritimes, France. The town is pleasantly situated on the Gulf of La Napoule, and is famed for its climate. Among the interesting features of the town are the wateb-tower of a mediæval castle, built hy Ahbot Adelbert in 1070; the bridge called Pont-de-Rion; a museum of antiquities; and the Albany Memorial Church of St. George of England, visited by Queen Victoria in 1887. The town was founded by the Romans on the Via Aurelia, and has suffered repeatedly from homhardment. Lord Brougham, to whom a statue is creeted on the principal promenade, the Allée de la Liberté, lived at C. and founded its reputation as a winter resort. There are many orange orchards and flower plantations, which form the chief industries: there is also trade in soap, olive oil, and salted fish. Pop. (1901) 22,799.

Cannibalism, or Anthropophagy (Gk. ανθρωπος, man, φαγείν, to eat), the practice of eating human flesh. The word is a variant form of Carib. Caribes, a fierce man-eating tribe of the W. Indies. C. has, at some time the W. Indies. C. has, at some time m other, existed in almost every part of the globe, in N. and S. America, Europe, Africa, India, New Zealand, and Australia. Strabo asserted that C. existed in Ireland, and the authority for the report that the practice once prevailed in Scotland is St. Jerome. As late as 1782 gypsics were executed forescence is terminal, the flowers prevailed in Scotland is St. Jerome, hermaphrodite, asymmetric, and epidate as 1782 gypsics were executed gynous, with three free sepals and in Hungary for practising C. It is still known among the tribes of W. capsule. The andrecium is repre- and Central Africa, New Guinea, sented by a number of petaloid bodies Melanesia, and the N.W. coast of N. in which the posterior stamen of the America. C. may often be traced to

taste may sometimes account for C. Among certain African tribes, the Niam-Niam and Monbuttu, human; flesh is put up for sale in the marketconsumed as food. A S. American tribe used formerly to breed from their captive women, in order to procure a constant supply of human flesh to satisfy their needs. Higher motives for C. are those due to superstition or religion. It was thought that a man acquired the qualities of the thing he ate. Thus the heart of a lion, consumed by a chief, would make him vallant in the fight. Accordingly, a man would eat his enemy in the hopes of acquiring his courage or persever-ance. This motive for C. existed among the Issedones of Central Africa, mentioned by Herodotus (iv. 26). The Maoris, Anstralians, and Indians of N. America believed in the transmigration of souls. The eating of the enemy might, therefore, preyent his finding another resting-place for his spirit, and would secure the murderer against being haunted by the short of the murdered. In the ghost of the murdered. In Anstralia certain tribes felt that the most fitting burial-place for the deceased was within their living relatives. Such funeral feasts were attended by many religious rites. Children ate their parents so that their virtue might be retained in the family, and likewisc parents occa-

magicians of N. America, whose rule it was to eat human flesh for admittance to their order. Consult Andree,

Endocannibalismus, 1896.

Canning, the process of preserving meat, fish, fruit, etc., by sealing up in caus or tins. The principle upon which this process is based is that of excluding the air from the produce it is desired to preserve. Before C. was thought of many methods of covering the cooked food with an air-

an economic cause. Even among tight coating were experimented with, modern civilised races it has hen re-These all falled for the reason that, sorted to in eases of dire necessity, although the air was thereby exsued as siege, famine, shipwrcck, cte. Savage tribes may be prompted by air were not; these were imprisoned bunger to kill and eat men when the food and worked havoe by flesh of animals is not available. The causing putrefaction. In C, the air taste for human flesh when once ac- is expelled and the germs killed at quired grows into a fierce desire, one and the same time by subjection which no other form of meat will to intense heat. The meat or other satisfy, so that a ginttonous, deprayed food is packed in cans which are then placed in a solution of calcium chloride heated to a temperature of 270° F. The cans remain in the solution and at the same temperature places, and corpses of relatives are for three hours, during which time germs and spores are destroyed, and air and steam escapes through a pinhole which has been left in each can. The holes are then soldered up and the tins allowed to cool. Food thus preserved sbould, if the process has been perfectly carried out, remain in good condition. Experiments have proved that even after twenty years there is no sign of deterioration. This could occur only if the process were not thorough, and the presence of putrefaction could be detected by a bulging of the can due to gases developed in the course of decom-position. C. was probably invented by M. Appert of Paris about 1810, but many others made experiments in the same direction. In Britain. London and Aberdeen are the chief towns engaged in the industry, but vast quantitles of canned foods are canning, Charles John, Earl (1812-62), a statesman, governor-general of India during the Mutiny of 1857. He was the son of George C., was educated at Eton and at Christ Church, Oxford; represented Warwick in the House of Commons in 1836; and entered the House of Lords on the death of his mother, who had been raised to the peerage. Under Peel's administration C. was Under-Secretary of State, Chief Commissioner of Woods and Forests in 1846, and Postmaster-General, 1852-55. In 1856 he became Governor-General of India, and when the Mntiny broke ont his strong moral qualities, good administrative ability and clear judgment enabled him to deal with the situation in a masterly way, little expected of him by many who felt that his powers were not equal to the occasion. His policy of conciliation towards the native princes, and his towards the native princes, and madevelop to the work of reform and development of the country stood him in good stead in a very difficult position. His dealing with the rebellion in Ondh caused much anary to the logs of the controversy, but at the close of the troubled period he received the thanks of both Houses of Parliament.

Canning, George (1770-1827), statesman, im man, was educated at Eton and christ Church, and even in these early days showed himself possessed of unusual ahilities. Favouring the Whig changes and interchanges of party do policy at first, the French Revolution drove him, as it did so many others, glance. He was what may perhaps he to snpport the political party that opposed it, and when he entered parliament in 1794 it was under the Tory hanner. He won golden opinions in the House of Commons, and a couple of years after he took his seat Pitt made him Under-Secretary for Foreign Affairs, and quickly promoted him to the office of Commissioner of the Board of Control (1799), and then to Paymaster-General (1800). When Pitt retired, C. did not join the Addington administration, towards which, although nominally a supporter, he acted the rôle of 'candid friend.' When Pitt returned to office in 1804, C. became treasurer of the talents. He became treasurer of the talents. He cablinet of 'all the serve in the cablinet of 'all the talents.' He became Foreign Minister under Lord Liverpool, hut disagree in the cablinet of 'all the talents.' He became Foreign Minister under Lord Liverpool, hut disagree in the cablinet of 'all the serve in the cable of a light was alightly wounded. When prit returned to office of the war, and urging his dismissal.

Canning, Sir Samuel (1823-1908).

Canning and his pite of which has been said to the canning and his pite of which has been defined to serve in his views, though the frequent in his views, though the frequent in his views, though in the cable of parts was that the was night the offi caused him to fight a duel with the cable of an unsuccessful first attempt. The minister on Sept. 21. 1869, in Cannock, a mrkt. tn. of Stafford-which he was slightly wounded. When shire, near Walsall. C., Brownhills, Perceval came into power. C. took a Chase Town, Hednesford, and other long holiday abroad; but in 1816 he small towns are sinated in the disvernt to the India Office under Lord triet known as C. Chase, formerly a Caroline, he declined to take any part its principal industries are tool, boiler, in the proceedings against her in brick, and tile making. Its populative was eventually accepted. Two lower is the present day. Cannon, see Guns.

Cannon-ball Tree or Courounita years later he accepted the appoint Cannon, see Guns, ment of Governor-General of India, but on the eve of his departure Cattle-quiancrisis, a species of Lecythi-Foreign Office. On Liverpool's death, capsule, and this has carned for the C. hecame Prime Minister and Chanellor of the Exchequer, but quarrelling with many members of his own Cannstatt, or Canstadt, a tn. of ling with many members of his own Würtemberg, Germany, on the Endry of of office on the support of the Whigs. Stuttgart. It is noted for its mineral alheit he sacrificed nothing of his springs, of which there are about policy. He only enjoyed his high thirty; it is thought that these were office for a few months, for he died on Aur. S. 1827. C. had literary as well and brick works. Fruit and wine are printed many pieces in the Anti-produced in the district. The French Jacobin, including the well-known under Moreau defeated the Austrians Needy Knife - Grinder. His poems under Archduke Charles in the neigh-

Canning, Elizabeth (1734-73), a were collected in 1823. He also has a canning, Elizabeth (1734-73), at were collected in 1823. He also has a criminal around whose case raged place in literary annals as a founder, great excitement and controversy, into which Fielding entered with his Clear State of the Case of Elizabeth (this periodical, so far as is known, he Canning. She told a mysterious tale of detention in the honse of a 'Mother Wells.' Her story led to condemnation, hut heing afterwards proved to let false she herself was transported. In most of his writings, and in many tion, hut heing afterwards proved to letters to his intimate friends, he false she herself was transported. Showed himself possessed of a fine canning, George (1770-1827), statesman, was educated at Eton and Christ Church, and even in these early contrary. C. was singularly consistent

reagh committed suicide, and he daces which is found in S. America, stayed at home, going again to the The fruit is a large, round, woody Foreign Office. On Liverpool's death, capsule, and this has earned for the

Cannula, a small tube used in surgery. It is introduced into a tumour to withdraw

Cano, Alor painter, scul-

at Granada. He studied painting under Francisco Pacheco, the master of Vclasquez, and sculpture under Juan Martinez Montañes. In 1637, in consequence of a duel, he was obliged tofice from Seville to Madrid, where he was befriended by Velasquez. Through the influence of his fellow artist, he was appointed court painter and royal architect. C, excelled in the three arts, and on account of the universality of his genius was called the Michael Angelo of Spain. There are work in the

and in the

tings, which chiefly deal with sacred subjects, are seattered in various cities, St. Peters-burg, Dresden, London, Berlin, and Munich.

Cano, Juan Sebastian del, a Spaniard, the first eircumnavigator of the globe. He sailed under Magellan, who was killed in the Philippines. C. continued the voyage, doubled the Cape of Good Hope, and doubled the cape of good Hope, and landed near Seville in 1522. Charles V. gavo him a pension and a globe inscribed with the motto Primus me circumdedisti. He died in 1526.

Canne (from a Caribbean word)

through the Sp. canoa), a general term for a boat which has both ends pointed and which was formerly propelled by paddles only, but now sometimes by sails alone or in conjunction with paddles. The paddles are manipulated without mechanical contrivances like those used to hold oars in position. The paddler paddles first on one side of the boat, then on the other, sitting in the 'well,' a characteristic feature of the modern C., as distinct from the primitive boat, which was open from end to end; in the modern vessel all but the well is covered with a deck. The primitive C., used by the ancient Britons, the Eskimo, the N. American Indian, etc., was simply the hollowed trunk of a tree, or else a simple frame of wood covered with skins or bark. This C., called a 'dug-out,' made from trunks, was hollowed either by fire, stone implements, or shells. Many of these have been unearthed in the British Isles, and they are still used by the Africans. A famous example of this C. is exhibited in the New York National History Museum; it is

bourhood in 1796. The town was in-corporated with Stuttgart in 1905. his renowned C., the Rob Roy, to-Pop. about 27,000. gether with the publication of his books, A Thousand Miles in the Rob Roy Canoe, and The Rob Roy on the Baltic, the Jordan, and the Zuyder Zee, 1850-66. The Rob Roy, designed for long journeys in the waters of the East, was built of oak with a cedar deck, was 14 ft. long and 26 in. wide; it had 7-foot paddles, and its sails were dyed blue on account of the glare of the sun; its weight, everything included, was 70 to 72 lbs. The Roo Roy became the type for the British C. W. Baden-Powell departed from this type by constructing the Nautilus, intended only for sailing, and there are now two types, the naddling C. and the sailing C. The paddling C. and the sailing C. The sailing C is about 15 ft. long, has a deck seat and tiller, its cockpit is small and its sail area correspondingly augmented, it contains air and watertight bulkheads, and is fitted generally with two sails. Baden-Powell Canoe of the Club

(founded 1866) lays down the rule that these Cs. may not weigh more than 200 lbs. and that their sail area may not exceed 75 sq. ft. These vessels can attain a speed of 40 m. a day in smooth water; racing Cs. can eover 8 m. an hour; these are 20 ft. long and 18 in. wide. Present-day crews sometimes sit on the side of the deck and not in the well; this device enables it to balance the wind pres-sure. The cruising C. is equipped with paddles and sails, the racing vessel has sails only. Modern British Cs. are usually made of oak, cedar, or pine; there have been Cs. made of paper, of tin, and of india-rubber. American Cs. are generally built of cedar, mahogany, or bass-wood, or on the lines of the Indiau birch bark C., and made of painted canvas, bark, or compressed paper. The 'Canadian,' a type of the former, is constructed on a mould over which alternate strips of dark and light timber are laid while still moist from a steaming process they have undergone. The strips are grooved, bound, and glued together; this forms the outer skin; the inner skin is composed of broader strips placed crosswise. Canon, an ecclesiastical dignitary,

living under a regular rule of life but not definitely connected with any not definitely connected with any religious order. In both the Roman and Anglican churches the title is also used for those clergy who are connected with cathedral churches, and form the cathedral chapter. The 63 ft. long, and nearly 4 ft. wide. institution of bodies of clergy living Canocing as a modern sport in England began with the lectures of John defined rule dates from an early date. institution of bodies of clergy living

and St. Augustine of Hippo also followed this system in the following century. At the Lateran at Rome there was also an early foundation of there was also an early foundation of the same kind. The practice hecame more general in the 8th century, when Chrodegang; Bishop of Metz (742-66), drew up a definite rule for Cs., founded largely on the Benedictine rule, but owing something to the traditional rule of the Lateran. In 816-17 Louis le Débonnaire made this rule hinding on all Cs. throughout the empire. In course of time the institution deteriorated, and a distinction hetween Cs. regular and Cs. seeular was made. The former observed the rule, while the latter, frequently laywere mainly administrative aries. Various attempts were dignitaries. made at reform, notably by the Papal Synods of 1059 and 1063. These councils insisted on the original plan of the common life, and also urged the necessity of poverty, for canonries often considered merely as A new rule. luerative sinecures. founded chiefly on the writings of St. Augustine, was now made, and those observing it were known as Augustinian Cs. There were over 200 houses of Augustinian Cs. in England at the Reformation. Since that date few attempts have been made to improve the system of Cs. regular. The chief orders of the kind in the Roman Church are those of the Lateran and the Premonstratensians. foundations were entirely abolished at the Reformation.

Canon (from Gk. Karwir, 'a measuring rod') was applied in early times to various rules of faith. By the 4th century the word had come into use to describe the rules of faith and practice put forward hy councils of the Church. Thus there are the Cs. of Nicea in A.D. 325, and the Cs. of all the councils given that 3 the councils given the same that 3 the councils given that 3 the councils given that 3 the councils given that 3 the 3 of all the councils since that date. The term also describes the list of saints honoured by the Church, and also the central portion of the lituray, including the consecration of the sacred clements. For an account of Cs. in general see Canon Law.

Canons of the Church of England .-A hody of 141 Cs. or ecclesiastical constitutions drawn up by the Convocation of Canterhury in 1604, and approved by the Convocation of York, being finally sanctioned by the king. They were drawn up as a result of the Hampton Court Conference, to the Hampton Court Conference, to the cromined away by first and springs, conclusions of which they were designed to give effect. In 1640, Con-below the falls, due to crosion by the vocation (q.r.) remained sitting after water in a 'young' land.

Cañon City, cap. of Fremont co., after revising the 1604 Cs., published seventeen more which never received. Colorado, U.S.A., situated 190 m. from seventeen more which never received.

In the early part of the 4th century parliamentary or royal sanction, the clergy at Vercelli were so united. Their hinding force has, in consequence, heen much questioned, and in consequence of their unpleasantly aggressive character, it is generally discredited. Except for those parts which have been superseded by later regulations of equal or greater anthority, such as the ruhries of the Book of Common Prayer, 1661, the 1604 Cs. are still binding on the clergy, who at their institution to a henefice promise canonical obedience to their hishop.

Canons, Book of, in Scottish ecclesiastical law, a hody of constitutions for the regulation of the Church in Scotland prepared by the hishops of that country and confirmed by letters patent under the Great Seal in 1635. after they had been revised by Land. In the next year they were published at Aherdeen, and caused much discontent throughout the country, on account of the stringency of their regulations. The king's supremacy in matters ecclesiastical was strongly emphasised.

Canon (Gk. xarwiv. a straight har), in music, a particular form of composition, hased on rule and written in strict imitation. The introductory theme or melody is taken up and repeated note hy note in succession, and at set intervals, hy the other part or parts. This kind of composition was introduced about the 12th century. and, with the furue, is the most difficult study in the art of musical

composition.

Canon, a Spanish word, but sometimes spelt Canyon, meaning 'agorge. and used originally when speaking of the very deep and narrow valleys or gorges which have been cut hy the rivers of Colorado and the western side of N. America. In Colorado the Grand C. is a nost perfect and heautiful example of this natural formation of the earth's surface. The river here has carved its way through solid rock, in parts to the depth of 6000 ft. and not a mile in width. The walls are of sandstone and limestone with varying colours, quite hare of vere-tation, and also cut into buttresses and terraces by the action of the atmosphere. There are other causes for these deep cuttings besides the work done by the stream itself: one is the continual uplifting process which maintains the rapid flow of the river. and the other the dry climate which keeps the rocky walls from being crumbled away by frost and springs.

coal mines, and there are large quantities of copper, iron, petroleum, and limestone. The zinc-lead smelting works are the largest in the world. It is an important health resort owing to its hot mineral springs and mild

climate. Pop. 4000. (Lat. Canoness canonica: Kanonissin). In the 8th century, chapters Cs. of instituted wcre throughout the Frankish empire, in imitation of the chapters of canons. These consisted of associations of women, generally of high birth, under a somewhat lax rule, bound by the vows of chastity and obedience, but not by that of poverty. They had a common table and dormitory, and were bound to the recitation of the Breviary, but they were not cloistered. Generally, they were engaged in education and needlework, teaching the embroidery of vestments and the transcription of religious books. As in the case of the canons, a distinction was soon drawn between regular and secular Cs., the latter being mere feudal princesses. At the Reformation many of these institutions became Protestant, and remained almost intact, with slightly altered rule, surviving to the present day.

Canonica, Luigi (1762-1844), an Italian architect. He designed the arena or amphitheatre in Milan, which was begun in 1805 by order of Mapoleon, who hoped to propitate his Milanese subjects by embellishing their capital. He executed many public and private buildings at Milan, the chief being the Casa Canonica, the two theatres, Re and Carcauo, and the interior of the Palazzo Orsini.

Canonical Hours, certain hours of the day and night appointed by the Roman Catholic Church for the reciting or chanting of the different parts of the divine offices. They are not now strictly adhered to as a general rule, but many of the monastic orders continue to observe them regularly. The hours are called Prime at 6 a.m.; Terce, 9 a.m.; Sext at noon; None from 2 to 3 p.m.; Vespers about 4 p.m.; Compline at 7 p.m.; Matins and Lauds at midnight or day break.

Canonicals, a term used to describe the official dress of the clergy. See

VESTMENTS.

Canonisation, a solemn declaration by which the pope publicly preclaims a servant of God to be numbered among the saints honoured by the whole Roman Church. In the early ages there was no formal act of C. as it was only in their own locality that martyrs were venerated, and so long as this was the case, little difficulty was likely to arise. The first traces of a judicial procedure appear in Africa, but this was demanded chiefly by the

peculiar position of the church there. During the early middle ages, we find that it rests with each bishop to decide what saint shall be honoured in his diocese, and on what day. However, much carelessness crept in, and several scandals arose from the 7th to the 10th century, men of evil life being inscribed among the saints. The policy of centralisation also tended to bring the act of C. under the papal power. The earliest known case of C. by the pope is that of Ulric of Augsburg by John XV. in 993. At the end of the 12th century, by decrees of Alexander III. (1170) and Innocent III. (1200), the right was exclusively reserved to the Roman Court. rule was made more stringent by Urban VIII. in two constitutions (1625 and 1634), and the procedure of the process was then laid down. With slight modifications it is in force at the present day. It was strictly forbidden publicly to venerate in any fashion any person not papally canonised. Two exceptions were made, those who had received immemorial cultus, and those whose cultus had been sanc-

procedure of formal C. is as follows: Fifty years must elapse after the death of the candidate. A court is then instituted by the ordinary of the district where the claim is made, and material is gathered on which the case may be judged. The materials are then sent on to the Congregation of Rites at Rome, and after a lapse of ten years, the case is introduced. The claimant may now be called Venerable. After proof of two miracles performed at the candidate's intercession, and also that the candidate possessed Christian virtues to a heroic degree, his Beatification (q.v.) is performed. After the proof of two more miracles since beatification, the pope then proceeds to canonise the Beatus, assign him a feast day, mass, etc., and propose him for universal veneration.

Canon Law, embodied in canons or regulations, forms the body of law by which the government of the church is carried on by ecclesiastics. These canons are enacted by general councils or provincial synods, and are often enforced by the civil power, which ratifies them and makes them legally valid. The body of Eastern C. L. is easy of access and small in extent. It may be found in the Nomocanon of Photius of Constantinople (300), and the Synodikon of Bishop Beveridge (Oxford, 1672-82). The Western C. L. is extremely voluminous, and is in a confused state owing to accretions, interpolations, forgeries, etc. At the Council of Basle all

ages the study of C. L. was the prineipal and most lucrative occupation of candidates for ecclesiastical offices.

anct. tn. of Canopus, used by Egyptian priests to bold the viscera of embalmed hodics. The jars were generally made of stone, and the lids were frequently shaped like four human heads, supposed to represent the four

genii, the sons of Osiris.

Canoppi, Antonio (1773-1832), an Italian artist. His father, who was a civil engineer, educated him for the same profession, but C. soon ahandoned science for art. He was first engaged as a fresco-painter by various Venice, and afterwards at Manua. Temored to the museum at Naples. During the Napoleonie war he was Pop. (1901) 24,169.

Obliged to seek refuge in Germany, where he was hetrionded by the was perioded by the was hetrionded by the provention of the prov. of couning the Napoleonic war he was Pop. (1901) 24,169.

Canossa a vil. in the Drov. of where he was hefriended by the Russian amhassador. Prince Razumovsky, at whose proposal C. proving, where the Emperor Henry IV. ceeded to Russia in 1807. In Moseow humble the Emperor Henry IV. ceeded to Russia in 1807. In Moseow humbled himself hefore Pope he decorated the hall of the senate and other public huildings, but his work was destroyed in the great fire Italian sculptor and painter, born at of 1812. In 1811 he went to St. Possagno, in the prov. of Treviso. He Petershurg, where he remained till came of a family of stone-cutters, but his death. At the Imperial Theatre his talent early attracted attention, he executed a number of architect and at the age of fourteen he entered Théâtres Moder

village Aboukir.

British battleship, launched in 1898, and of 12.950 tons burthen. The name was first used in the navy in 1798, and was associated with the engage-

century.

previous collections were gathered together as the Corpus Juris Cononici, but this edition must now be supplemented by many papal decrees, the mented by many papal decrees, the with which the Nile fishermen procanons of later councils, etc. It is in force throughout the Roman Hence it is used for any covering, but Catholic Church. During the middle in particular for such as is projected at a height over a bed, or throne, or over a conveyance in state proces-In architecture the word desions. Canopic Vases, called after the notes the projection over an altar or tomh, a feature of the decorative period in Gothie architecture. It is also used of a moulding overhanging a door, porch or window.

Canosa di Puglia, a tn. of Southern Italy, in the prov. of Bari, 13 m. S.W. of Barletta. It occupies the site of the ancient Apulian city Canusium. town contains the cathedral of San Sabino (built 1101), which holds the tomb of Bohemond I.; a ruined castle. huilt by Charles I. of Naples, and the remains of an amphitheatre and an old

he executed a number of architec and at the age of fourteen he entered tural scenes, including those for the the atchier of the sculptor Torretti. operas of the Zauberflöte and Semi-through the help of his patron, Gio-ramis, which excited the highest advanni Falieri, a Venetian senator. miration. In his smaller compositions | C. accompanied his master to Venice C. chose architectural views for his and, after Torretti's death, studied C. enose arennectural views for the subject. Author of Opinion d'Antoine under his nephew Ferrari and at the Canoppi sur l'Architecture en conércial Venetica. Academy. At the age of et en spécialité C. exceuted statues of

C. executed statutes, and at and finished his Canopus, or vo he had finished his of Egypt, situated about 14 m. E. of famous 'Dædalus and Icarus,' now Alexandria, on western mouth of the in the Venetian Academy. In 1779, Nile, called after the city the Canopic through the influence of his friend mouth. C. was the pleasure resort of Falieri, C. was awarded a pension the anious temple of Serapis were 1780 he went to Rome to study, and, excavated in 1893 near the modern inding little to attract lum in the village Aboukir. conventionality of modern art, he Canopus, the name of a first-class found his inspiration in classic sculp-He exhibited in 1782, and won late fame. Before long, he ture. immediate fame. was acknowledged by artists of all nationalities as the first sculptor of ment off San Domingo, 1806, and the his day. C. was three times summoned to Paris by Napoleon. carved the well-known bust of Napoleon in the Pitti Palace, and also Pauline Borghese as a reclining Venus, extremely remote, and of enormous and the Empress Maria Louisa as luminosity. Proper motion 2" per Concordia. C. also executed many commissions for the pope, on whose

account he suffered exile during the revolution of 1798-1800. In 1816 he was created Marquis of Ischia, and his name was inscribed in the Golden Book of the Capitol. He died at Venice, and was buried in the church he himself built at his birthplace. His famous 'Cupid and Psyche' is in the Louvre. Among his other well-known pieces are 'Hereules throwing Lichas into the Sea,' Perseus,' Venus and 'Hebe pouring Nectar, Theseus and the Centaur,' Mars and Venus.' Consult his Life, written hy Quatremère de Quincy, Paris, 1834; by Cicognara, Ve 1823; and by Rosini, Pisa, 1823. Venice,

Canovas del Castillo, Antonio (1828-97), a Spanish statesman and historian, born in Malaga. He became a member of the Cortes in 1854, was made minister of the interior from 1860-64, was premier from 1875-81, and also held this office at intervals up to 1897. He was premier altogether six times. C. was a member gether six times. C. was a member of the Spanish Academy from 1867 till his death. During his membership and after the year 1890 he published many works. He edited and directed the publication of Historia General de España. In politics he was the leader of the Conservatives. He was assassinated by an anarchist

at Santa Aguada.

Canrobert, François Certain (1809-95), a marshal of France. Ho was born at St. Céré in department Lot. He first became noted through his valour, displayed in the Algerian wars of 1835 and 1841-51. He also rendered Louis Napoleon great service in his coup d'étal of 1851. When the Crimean War broke out he was given command of the first division of the Evench army. but on the death of French army, but on the death of Marshal St. Armand he was made eommander-in-chief. Although twice wounded he completed the lines of investment at Sebastopol. He resigned his command in May 1855 through a disagreement with Lord Raglan. He fought at Magenta and Solferino in the Italian wars in 1859, and in the Franco-German War, 1870. He was besieged at Metz, but bad to snrrender, and was therenpon imprisoned in Germany.

Canso: 1. A cape in Nova Scotia, on the N.E. extremity of the mainland, and on the S. side of Cheda-bueto Bay. 2. A strait, 17 m. long, between Nova Seotia and Cape

Breton Island.

Cant, a term used in architecture, and denoting the corner of a square cut off octagonally. In huilding a C. brick is one cut on the slant. It is also applied to a ship's timber, forward or aft, lying obliquely to the keel.

Cant, Andrew (1590-1663), a Scot-In 1816 he tish preacher and leader of the Covenanters. He became minister of Pit-sligo in Aberdeenshire in 1633; of Newbattle, Midlothian, in 1638; and of Aberdeen in 1640. In July 1638 he was made a commissioner for the purpose of converting people to Preshyterianism, and in the same year he took an active part in the celebrated assembly which was held at Glasgow.

Cantabile, or Cantilena, terms used in music to express great smoothness in manner of performance. Often translated as to be played in a sing-ing manner. Its opposite might be said to be the term 'maestoso.

Cantabri, the name of an anct. race of mountaineers, living in the N. of Spain to the S. of the Bay of Biseay, which was called after them, Oceanus Cantabricus. They were of Iberian origin, and are now represented by their descendants, the Basques of the Pyrences. The Cantabrian war which Pyrenees. The Cantagorian was under they waged with Rome lasted for six years (25-19 B.c.), and was finally concluded by Agrippa. Roman garrisons were stationed in their country, but they never gave up country, but they their independence.

Cantabrian Mountains, a range of mts. on the W. of the Pyrenecs, and stretching for 300 m. along the N. of

Spain.

Cantacuzenus, a Greek family of royal hirth. 1. Johannes C. (c. 1292c. 1380), a Byzantine soldier and Hе

III.,

and regent to his son, Johannes V., then a boy of nine. C. was suspected by the queen-mother, fled from Constantinople, and proclaimed himself emperor. After a civil war lasting six years, peace was made; he was de-elared joint emperor, 1347, and his daughter married to the young Johannes. In 1354 C. was forced to abdicate. He retired to a monastery, where he wrote a history of his times from 1320 to 1357, and a defence of Christianity. 2. Matthias (d. 1383), his son, waged war for two years, after his father's retirement, against Johannes V., but was unable to make himself emperor. 3. Manuel (d. 1380), the brother of Matthias, and governor of Peloponnesus.

Cantal, a central dept. of France, in the southern part of the old prov. of Auvergne. It has an area of 2217 The region is occupied by an sq. m. extinct volcanie mass, the highest peaks being Plomb de Cantal (6095 ft.) and Puy Mary (5850 ft.). Cattle are bred, and part of the country makes good arable land. Rye, potatoes, and chestnuts are the chief products. The only two rivers of any importare the Truyère and the Capital, Aurillac. Pop. Dordogne.

(1901) 230,511.

Cantarini, Simone (1612-48), an Italian painter, called Pesarese, or Simone da Pesaro, born at Orpezza, near Pesaro. He was first a disciple of Pandolfi and Claudio Ridolfi, and afterwards of Guido Reni, whose style approached very nearly. suffered from an arrogant and jealous suffered from an arrogant and jealous disposition, and, leaving Guido, spent some years in Rome studying the work of Raphael. On his return to Bologna, he started a school, but with little success. He painted the portrait of the Duke of Mantna, but was mortified at the result, and died, possibly of poisoning, at Verona. C. was a good colourist, but his work lacked character and originality. He dealt chiefly with religious subjects: dealt chiefly with religious subjects: his hest known paintings are: a portrait of Guido in Pesaro: the Assumption' in the Bologna Gallery; 'St. Thomas placing his fingers in the side of Christ 'at Naples; and 'Joseph and Potiphar's Wife in the Dresden Gallery.

Cantata (Lat. cantare, to sing). In music the term is applied to certain forms of composition for solo voices and chorus, with instrumental accompaniments. It may he sacred or secular in character. In the former case it resembles an oratorio, but is much shorter; in the latter it may be compared to an opera, but it has no stage accessories. Originally, a C. was a musical theme sung hy one person

to a single instrument.

Canteen, a refreshment bouse attached to a barrack. In the British army, men are only supplied with meat and bread, and bave to buy their other necessaries at the C. The men living together in a room form a mess, which opens up an account with the C. A mess is only allowed to spend a certain fixed amount per week, and anything else the men require they bave to pay for personally. The accounts of the mess are kept by the non-commissioned officer in charge of the men. Cs. were once kept by eivilians, but since 1857 they have been under the control of the War Office, and are a recognised army institution. They are managed by a small committee of officers, and the goods are sold at practically cost price, any profit being spent for the benefit of the corps. A C. consists of a beer shop, a grocery shop, and a coffee bar. The last named supplies a sort of club room used by the whole regiment for social purposes.

Cantelan, a tn., prov. Mindanao, Philippine Is., 47 m. S.E. of Surigao. Pop. 7500.

Cantelupe, Thomas de (c. 1218-82), Bisbop of Hereford, nephcw of Walter de C. He studied at Oxford, Paris, and Orleans, and became chancellor of the Oxford University (1262-63), and lectured in theology at Paris and at Oxford. He was appointed Lord Chancellor of England (1265), and held many rich livings, and was consecrated Bisbop of Hereford in 1275. He became involved in a dispute with Archbishop Peekham in the Council

of Reading (1279), who excommunicated him in 1281. C. appealed to Rome, and on his way to Italy died at Orvieto. He was buried in his own cathedral, and was popularly regarded as a saint, owing to the marvellons miraeles that were worked at his tomb. In 1320 Pope Jobn XXII. canonised him as St. Thomas

of Hereford. Cantelupe, Walter de (d. 1266), was consecrated Bishop of Worcester at Viterho in 1237. He held several rich rectories in plurality, and strongly resisted the interference of papacy in England. He defended pluralities against Otho (1237), opposed the papal demand of a tenth for King Henry III. (1252), and the further encroachments on English liberty made by Rome in 1251 and 1255. He supported the harons in 1264-65, and was summoned to Rome, but died hefore leaving England.

Cantemir, Antiochus Dimitrievitch (1709-44), a Russian poet, also satirist and diplomatist, born at Constantinople. He was appointed as Russian amhassador in London in 1730, and in Paris in 1738. His poems were mostly in a satirical vein, and he translated into Russian Boileau's Satires and Montesquicu's Lettres Persanes. also many classical works. It may be said that C. introduced the pseudoclassical spirit and ideals in Russian literature. Abhé Guasco translated C.'s satires and poems into French in 1750. A new edition of his works with biography was brought

Stojunin in 1867 in 2 vols. Cantemir (or Kantemir), Demetrius (1673-1723), the most celebrated of the noble family of Moldavia. He was elected Prince of Moldavia in 1710. owing to the fact that war with Russia C, obtained an seemed imminent. alliance with Peter the Great in the following year, with a promise of help against the Turks. Peter was defeated coffee bar. The last-named supplies in his campaign to the Pruth, and C. all kinds of non-alcobolic drinks. In was obliged to take refuge in the America the sale of intoxicants is Russian capital. He was one of the prohibited in Cs. In France, the C. is founders of the St. Petersburg a sort of club room used by the winds. Academy, and wrote extensively in Latin, Greek, Roumanian, and

Romano-Moldo-Vlahilor.

polis of all England. C. occupies the site of the Roman Durovernum. It was an important for tress and military station, being situated on the high-way to London from Dover. To the Sazons it was known as Cantwarabyrig, 'town of the men of Kent,' and was the capital of that kingdom. The see was founded ahout 597, when St. Augustine hecame Archhishop of Canterhury, and from this centre Christianity spread through England. The church, said to have been conse-crated by St. Angustine, was de-stroyed by fire in 1067; the restored church, built by Archbishop Lan-franc, was the scene of the murder of Thomas à Becket, 1170. The slah of stone on which he stood at the time is still shown in the N transent. adis still shown in the N. transept, adjoining the Deans' Chapel. Relies of the martyred hodies of saints—Blasius, Dunstan, Wilfrid, and Alfege—were brought to the church, and, like the shrine of Becket, attracted numerous pilgrims, whose offerings went towards the rebuilding of the church. The chief artificer during the 12th century was a Frenchman, William de Sens. The present nave and transept date from about 1400, and the Bell Harry tower from 1495. The cathedral is in the form of a double cross, with a central and two western towers. The total length is 522 ft., the eastern transept measuring 154 ft. Various styles of Gothic architecture are present, the pre-dominant styles heing the Transition-Norman and the Perpendicular. There is a spacious crypt, cloisters, fine locust. The drug called contained the chapter-honse, and two libraries. The is prepared from the dried King's School, founded by Henry C. vesicatoria, and is used to VIII. in 1541, is attached to the of its blistering properties. cathedral. There are many ancient cathedral. There are many ancient churches in C., the most notable being St. Martin's, part of which is built of Roman brick and tile of the 6th century; in its font St. Augustine is supposed to have haptised King Ethelbert; and St. Dunstan's, containing the burial-vault of the Roper family. with the best of St. Thomas family, with the head of Sir Thomas More. C. has the ruins of a Norman keep, a guildhall (1439; rebuilt 1697), and a hospital for poor brethren, founded by Archbishop Lanfranc. The Checquers Inn, immortalised in of the dist, on the w. arm of the the Canterbury Tales, and an ancient Mekong. 43 m. from its mouth.

Canting in the control of the dist, on the w. arm of the the Canterbury Tales, and an ancient Mekong. 43 m. from its mouth.

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Turkish. Hischief worksare: Historia interest. The most famous archde orlu et Defectione Imperii Turcioi hishops have heen, St. Augustine, St. (trans. into English by Tindal in Dunstan, Lanfranc, Anselm, Becket, 1756); Descriptio Moldarice; Cronica- Cranmer, and Laud. The Archbishop of C. is the first peer of the realm, and Canterbury, a parl, and co. bor. of crowns the sovereign in Westminster England in the co. of Kent, on the Ahley. C. has a great 'cricket week' R. Stour, 56 m. E.S. E. of London. It in the summer; its chief trade is in is a cathedral city, the see of the hops and grain. Pop. (1901) 24,898. primate, and the ecclesiastical metro-

Canterbury, a provincial dist. in the centre of S. Island, New Zcaland. It covers an arca of 14,040 sq. m., 3900 sq. m. of which form the C. Plains sloping from the mountains to the coast. The wheat growing and sheep rearing for which this part is noted are all carried on in this district. It is from here that the celebrated C. lamb and mutton of the English market comes. Dairy farming and cheese making, also cocksfoot grass seeding, are the principal industrics of Banks Peninsula, a volcanic region with rich soil. The capital is Christ-church, and the chief ports are Lyttelton in the N. and Timaru in the

S. Pop. 160,000.

Canterbury Bells, see CAMPANULA Cantharidæ, or Meloidæ, a family of colcopterous insects in the division Heteromora, known popularly as blister-beetles or oil-beetles. The species, of which about 1500 are classified, are subdivided into winged Cs. and wingless Meloides, and many of them are remarkable for their power of raising blisters when in contact with the skin of other animals. Cantharis (or Lytta) resicutoria, the Spanish fly, occurs in Spain, France. and Italy, and has this property. It is about three-quarters of an inch long, hright green in general colour, with legs and antennæ bluish-black. When touched they feign death and emit a penetrating odour. The larvæ feed on the roots of plants, but those of the Sitaris humeralis feed on the eggs of a bce, while the young of Epicauta vittata live on the eggs of a locust. The drug called cantharides is prepared from the dried bodies of C. resicatoria, and is used on account

Cantharus, the typical genus of a section of Sparide, or sca-breams, is to be found in the Mcdlterranean, the Atlantic, and off the coasts of Africa and India. The species lack molar and vomerine teeth, are carnivorons and edible. C. lineatus is known both as the black sca-bream and as old-

fe. Cantho: 1. A dist., Lower Cochin lina, or 12 Pop. China, or sq. m. 1 140,000, Cap. of the dist, on the w. arm of the Mekong, 43 in, from its mouth.

the Vulgate 'Cantieum Cantieorum' of the original Hebrew title. The book in the original. Its interpretation, since it seems to be considered that its place in the scriptural canon demands some secondary significance, is still disputed. It was first explained by the rabbis as an allegory of God and his people, and as such was admitted to the canon by the Massoretes. The early Christian theologians, such as Origen, made it refer to Christ and his Church. This view is still accepted in some quarters. Other symbolic interpretations have been brought forward, but it appears improbable that anything more than the literal meaning is really to be found in the book. There are two variants of this idea: the dramatic, held by Delitzsch and Ewald, which considers that

platforms at railway stations. Perplatforms at railway stations. Perhaps the most important use of the
haps the most important use of the
mint. The new town, more compartly built, forms the commercial
bridges. The idea has been applied to
the bridging of spaces too wide to be
suburbs crossed by a single plank from the To the S earliest times, and, in its simplest lalong form, is still employed by many were formerly the European quarter castern nations. In these primitive This is now located on the island of

of the Hebrew Scriptures. commonly C. bridges, two planks, firmly fixed known in English as 'The Song of in the hanks, project over the stream, Solomon,' or 'The Song of Songs,' and are connected by an independent this latter being a translation through truss overlapping the end of each the Vulgate 'Cantieum Canticorum' The principle has recently been greatly of the original Hebrew title. The subject of girders or suspension bringes are miss a short crotic lyric on the subject of girders or suspension bringes are miss chaste love, arranged in dramatic practicable. The modern practice is form in a dialogue, as is apparent to creet in the bed of the river, at a changes of number and gender convenient and equal distance from developed, and applied in cases where each bank, a pier supporting two Carms, one of which extends to the shore and the other over the stream. These onter ends are connected by another truss. The first modern bridge creeted on these lines was one over the Niagara R., designed by Charles C. Sehneider in 1882; and another famous example is the Forth Bridge, Scotland, with its two great C. spans of 1760 ft. The Cs. of the Lansdowne bridge over the Indus at Sukkur are supported by the hank itself. The bending stress of a C. causes it to hend with a convex curve upwards, in the opposite direction to the curve of a bridge supported at hoth ends.

according to Ewald, the shepherd lover, are represented; and the lyrical, held by Karl Budde, which considers the book as a collection. of the Shu-kiang, Canton, or Pearl R., 70 m. from its mouth and 90 m. N.W. of Hong-Kong. The city stretches example of Hehrew poetry, full of ravine at the foot of a range of lills to feeling for nature, and passionate the N. and N.E. The island of He-nan description of pure and faithful love. The language of many positions in the river opposite to the city. The language of many portions is of The river affords safe and plentiful great beauty. The date and author anchorage for small vessels, but large of the book are hypothetical, but incomes have to unload at Whampoa. of the book are hypothetical, but internal evidence tends to place it not arifier than the 3rd century B.c. See Driver's Introduction to the Literature of the Old Testament, 1891; Cheyne's article in the Encyclopadia Biblica; J. W. Rothstein, in Hastings' Dictionary of the Bible; and the works of Herder, Umbreit, Magnus, Hitzig, etc. Cantilever, originally a term applied in architecture to a structure supported only by one fixed base, 25 to 40 ft. high, 20 ft. thick, and 6 or beyond which it projects horizontally, e.g. a beam supported at the centre is said to have two C. arms. Cs. are largely used as supports of huildings, where they serve a double purpose of into the N. or old town and the S. or where they serve a double purpose of into the N. or old town and the S. or use and ornament; for sidewelks con-structed outside the trusses of a larger, but very scattered and strag-bridge; and for the roofing of island gling. It contains official residences,

Sha-mien. and suburbs are very narrow and crooked, cach closed by gates, and, in the commercial district, set apart for one particular trade. There is no The honses of the wheeled traffie. poor are of mnd; those of the hetter elasses of brick or stone, with flat roofs. Riverside dwellings are built on piles. Among the chief buildings are two pagodas, one a 10th-century Mohammedan mosque (the Plain Pagoda), and the other a 6th-century octagonal nine-storied huilding; about

on islands in the river. The trade, which has suffered through the openwhich has subtreed through the open-ing of other Chinese ports, is still large. Tea, silk, sugar, cassia, china-ware, matting, bristles, palm-leaf fans, canes, and preserves are ex-ported; and textiles, metal goods, and food-stuffs imported. There are manufactures of silk, fireworks, hard-ware, and woodwork. The climate is healthy. C. was visited in 1684 by the East India Company, whose monopoly only ceased in 1834. The Nanking Treaty of 1842 made it one of the five ports open to foreign trade. It was bombarded by the French and Eng-lish forces in 1857, and held by them Canton: 1. A city in Ohio, U.S.A., 52 m. from Cleveland; a great

number of different articles are manufactured there. Potter's clay, coal, and limestone are exported. It was the home of President McKinley. Pop. 50,000. 2. A tn., Illinois, U.S.A., 2 m. from Peoria, in a coal district. There are large tobacco factories and flour mills, and agricultural implements are made there. Pop. 6600. New York state, U.S.A., 18 m. from Ogdenburg on the R. La Grasse. St. Lawrence University is situated here. Butter and cheese are made, and small boats and launches are built. Pop. 6500.

Canton: 1. A geographical area in Switzerland, having its own laws and a local government which looks after all domestic affairs, such as trixation and control of public money. Foreign policy, control of the army, etc., are left to the general government, whose headquarters are at Bern. France a term meaning a subdivision of the arrondissement under a justice

of the peace.

Canton, John (1718-72), an English scientist, born at Stroud: spent most time was a professor of Italian of his life in London, part of the time as a school teacher. His researches in Milan, and Sondrio. He was thrown plysics were mainly in the field of into prison between 1832-3 for reclectricity, for discoveries in which he was made a fellow of the Royal Austrian government in his book

The streets of hoth city | Society about 1850. Among his other work may he mentioned the invention of the pith-ball electrometer, the verification of Franklin's identification of lightning and electric fluid, and his demonstration of the compressibility of water, for which he received the gold medal of the Royal Society. He wrote several treatises in the Philosophical Transactions.

Cantu

Canton, William (b. 1845), English writer and editor, educated in France. He was for long sub-editor and leader writer for the Glasgow Herald; suh-editor of the Contemporary Review; manager of Isbister and Co., Ltd., 1891-99. Among his publications are: A Lost Epic and other Poems, 1887; The Invisible Playmate and W. V., Her Book, 1897; Children's Sayings, 1900; The Story of the Bible Society, 1904; The Bible and the English People, 1911.
Cantoni. Simons id 1818) Italian He was for long sub-editor and leader

Cantoni, Simone (d. 1818), Italian architect, born at Maggio; studied at Rome, and spent most of his life at Milan, where he creeted the Palazzo Serbelloni, the Palazzo Mellerio, and other fine mansions. He was also responsible for the rehnilding of the great council hall in the palace of the Duke of Genoa, which had been burnt down in 1770, and for several palaces in Como and Bergamo.

Cantonments, a

military term applied to a temporary resting-place for troops. On active service, troops in C. are quartered actually in a town or village, and the term is also used when they are detached and quartered in several neighbouring towns. most common use of the word is in British India, where C. are equivalent to permanent barraeks, situated at a short distance from a town, or to isolated military stations.

Canton River (Chinese Chnkiang, pearl river'), an arm of the delta Si-kiang in the prov. of Kwang-tung, China. It is the lower portion of the Pe-kiang R. Ahout 45 m. below Canton the river is called Boca Tigris, or Tiger's Mouth. The estuary of the river S. of Boca Tigris is called 'Outer Waters.' The celebrated Outer Waters.' The celebrated Bogue Forts, taken by the English in 1841 and 1856, guard the entrance to this part of the river.

Cantu, a tn. in Lombardy, Italy 5 m. S.S.E. of Como. It produces cereals and silk. Pop. 11,000.
Cantu, Cesare (1807-95), an Italian

historian and novelist. He was born at Brivio near Milan, and for a little nel Secolo XVII. While in prison bo In order to gain votes it was a practice wrote his historical novel Margherita Pusterla, published in 1838. His great work is his colossal Storia Universale (1836-42) in 35 vols., which brought bim in £12,000 in royalties. It is of great value both from a literary and a polemical point of view. His books for young people are Letture Giovanili and Il Galantuomo, which are greatly read. Among his other works are Storia degli Italiani (1855-7), which is in 6 vols., and Italiani Illustri, Ritratti (1870-2). in 3 vols.

Canute the Great (d. 1036), the second King of Denmark of his name, and King of England. The son of Sweyn, King of Denmark, who, after conquering a great part of England, and driving Ethelred, the Saxon king, Into exile in Normandy, died in 1014. C. succeeded to his English conquests, defeated Ethclred, who had returned, and overran the whole country with the exception of London, where Ethelred retired and died in 1016. Hisson, Edmund Ironsides, vigorously opposed C., but after being defeated at the battle of Assandun, consented to a division of the country, by which he took Wessex and C. Mercia and tho N. In 1017 Edmund was murdered and C. became King of England. He banished the sons of Edmund, married Emma, the widow of Ethelred, and divided the kingdom into the academy of Mercia North. into the carldoms of Mercia, North-umberland, Wessex, and E. Anglia. He gained the favour of his people by sending back many of his adventurers to Denmark, placing Saxons in power, and by his general prudent policy and piety, and was accompanied Saxon warriors on his expeditle against Sweden and Norway.

Sweyn, Harold, and Hardicanute. The story of his rebuke to his flattering courtiers comes from Henry of Huntingdon.

Canvas, a heavy cloth, very strong, and made of jute, hemp, or flax. The strands or fibres are woven the same way as linen. All C. used for saileloth is made from hemp and other fibres,

the best and strongest kinds are made from flax, and generally in widths of 24 in. A piece, or bolt, is 40 yds. long. There are different kinds of C., varying according to weight. Artists' C. used for oil paintings is one of the finest kinds of C., and the sails of racing yachts are often cotton-duck.

Canvassing, a term used for soliciting votes at an election. It is also applied to the soliciting of trade or

Ragionamenti sulla Storia Lombarda business by commercial travellers. to use illegal methods whereby the number of votes could be increased. The illegal methods adopted were such as treating, undue influence, and aiding and abetting on the part of the canvassers, and it was to cope with these irregularities that a law was . passed against 'Corrupt and Illegal Practices.

Canzone, a Provençal and Italian form of poctry used principally for love lyrics, though occasionally used for religious and other subjects. The earliest specimens from Provence date from the 12th century, and those of Italy from the 13th century. number of stanzas was generally five or six, but they varied sometimes, and the last stanza was more often than not shorter than the others. Provencal Cs. the same set of rhymes went through all the stanzas, but in the Italian a fresh set was introduced for each stanza. Daute, Petrarch, Tasso, and Leopardi all wrote this form of poetry. Drummond of Hawthornden wrote the best examples of English cauzone.

Canzonet (a diminutivo of canzona), in music, applied to a short song in parts, and to musical settings of trifling verses.

Cao-bang: 1. A circular dist. in Tongking, covering an area of 3000 sq. m. The country is mountainous, and sulphate of tin, iron, and galena are found there. There are also fine forests. Pop. 70,000. 2. Capital of above circle, 72 m. from Langson. Rice, maize, sugar cane, and betelnut are grown there. Pop. 6000.

Caoutchoue, see Indianubber.

against Sheath And Holland Hol are, generall

entering into criminal law

absolutely incapable of committing

a crime. Capacity, the power of containing

c C., the number of n a solid or closed

required to a body oac quantity o raise the from 0 to 1.

Capaneus, a Greek hero who took part in the first expedition of the Seven against Thebes. While he was trying to scale the walls of Thebes he was struck by lightning by Zeus (Jupiter).

Cape, a term applied in geography

110 m., the greatest width 85 m., and the area 3120 sq. m. It is bisected by the waterway formed by the inlet of the Bras d'Or, on the E. coast, the lake into which it widens, and the St. Peter's Ship Canal, which joins this lake to the Gut of Canso. The Bras d'Or Lake is 50 m. long, 20 m. broad. and from 12 to 60 fathoms deep. It is surrounded by heautiful seenery, and renders practically the entire Island accessible by water. The northern portion of the Island is much more mountainous and rugged than the southern, and rises to an elevation of 1800 ft. at North Cape. The coast is deeply indented by numerous bays and harbours. The climate is milder than that of the mainland, but very moist. The harbours are open all the year round. A certain amount of grain is grown, and there is considerable mineral wealth, coal and iron (in the Sydney district), copper, marble, granite. ilmestone, slate, gypsum, and salt being mined and exported. Timherand shipbullding form an important Industry, and C. B. is the contre
of the cod-fisheries. The Island is a
great tourist resort. The population
of the mainly of Scott
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is no second and the second with any of the s seent, and Roman Gaelie is still larg

are also some Fre Miemae Indians. The Island is divided into four ecunties; Richmond, Inverness, Victoria, and C. B. The chief towns are Sydney, Arieliat, Port Hood, and Louisburg. C. B. was eeded to France in 1654 at the Peace of St. Germain, the French settled and fortlifed Louisburg in 1712-13. The island was frequently taken and lost by Great Britain, but finally beeamo British In 1763. After some clianges of local government it became part of Nova Scotia in 1819.

Cape Coast Castle, a tn. on the W coast of Africa in the colony of Gold Coast. Formerly the capital.

Cape Cod, L-shaped sandy peninsula of Massachusetts, U.S.A., 65 m. long and 1 to 10 m. broad. It is a favourite summer resort, and there numerous small villages and aro settlements.

Cape Colony (officially the ' Prov. of the Cape of Good Hope'), the most southerly portion of Africa. The boundaries of the prov. are Beehuana-

to a projecting piece of land extend-line place of the coastline line a sea or lake.

Africa, on the N.W., and on the N.E. and E. the Transvaal, Orange Free State, Basutoland, and Natal. The breadth of the colony may be measured by its diameters (N.E. to S.W. and N.W. to S.E.), which are The greatest length of the Island is respectively 750 and 800 m. long. The coastline from the mouth of the Umtamouna on the E. to the mouth of the Orange on the W. measures some 1300 m. The whole area is somo 1300 m. The whole area. Walfish Bay on the W. coast, which is surrounded by German territory, is also a part of the province.

Physical features .- The estuary of the Knysna provides the only good natural harhour of the province; the bar at its entrance is never less than par at its entrance is never less than 14 ft. deep. Skirting the coast westward, the traveller will pass the mouths of many mountain torrents, broad stretches of forest, and the green slopes of the Viteniquas Mts. Further to the W. ho will see Cape Agulhas and the Cape of Good Hope, which rises 840 ft. above sca-level. If the traveller develop the Cape. the traveller doubles the Cape, he will find himself in Table Bay, above which towers the flat-topped, cloud-girt Table Mt. (3549 ft.). Cape Town, the capital of the province, extends along the coast and the lower slopes of the mountain, on the side of the

rub, and presents a barren

rub, and presents a barren

Saldania Bay, 20 m. N. of

Ie., is a sale and sheitered

roadstead. Robben Is., outside Table

Bay, is the only other island of im
portance. In C. C. the rise of the land

in terraces up from the sea to the

great plateau of South Africa is well

marked marked.

Ocean currents .- The Agulhas current rushes south-westward from the S. and E. coasts so forcibly that a counter-current, running in a northeasterly direction, is set up. going towards Natal from Cape Town avail themselves of this back drift. At the southern extremity, where the Birkenhead went down in 1852, the warm Agullias current meets the cold W. drift from the Antarctic. The current flowing northward along the western shores is really part of this W. drift, though its course is diverted.

Rivers.—Beginning on the E. coast, the Buffalo rises beyond King William's Town, which is on its bank. At its mouth lies E. London, the third port of the province. Port Alfred is situated at the mouth of the land Protectorato on the N., Great Kowie, which rises in the Zuurberg

Mts., and is noted for the heautiful; country through which it flows. The source of the Kei is in the Stormberg. Further S., the Great Salt R. enters the sea. It is formed by the flowing of the Kat, which rises in the Winter-herg, into the main stream, there called the Great Fish R. Rising in the Znurherg, the latter, like the Sunday and the Groote, crosses the Great Karroo; it is remarkable alike for its swollen waters after rains, and for its tortuous course. At one time it makes a great circular sweep of 20 m., the two ends being less than 2 m. apart. The Sunday joins the Indian Ocean in Algoa Bay after watering a very fertile district. The Groote is the more important of the two streams, which are known after their junction as the Gamtoos. It takes its rise like the Gamka in the Nienwyeld Range. The Gamka unites with the Olifants to form the Gonritz, which is fed by the tributary, Groote (125 m.), just before it pierces the coast range. The most westerly river of importance on the S. coast is the Breede, which rises in the Warm Breaking through the Bokkveld. mountains at Mitchell's Pass, it afterwards receives the streams from the celebrated Hex R. Pass. On its banks are the picturesque cities of Ceres and Worcester. Unlike most of the rivers, whose mouths are slited by and bars, it is navigable for some 35 m. There are three rivers flowing into the Atlantic Ocean N. of Cape Town, namely, the Berg and the Buffalo, each 125 m. long, and between them the Olifants, 150 m., which, rising in the Winterhock Mts. and cleaving a passage hetween the Cedarberg and Olifants chains, maintains a fair depth throughout its lower course. The great water-way of the Orange, which stretches almost from the Atlantic to the Indian Ocean, forms a northern houndary to the province. The Zak, Ongers, and Brak unite with the middle courses of this river, whilst the united Modder and Riet from the S.E. and the Harts from the N.E. both effect their junction with the Vaal, the greatest of the Orange offshoots, within the confines of the Colony. The inner mountain range is the main watersbed. Unfortunately hardly any of the rivers are navigable for any distance. As they tear down the mountain sides, cutting deep ravines, they grow into splendid streams after heavy rainfall, but in the hot weather they shrink to the size of brooks or dry up altogether.

Lakes and cares.—Though the

20 m. in circumference. Situated in the harren north-western flats, this natural hasin, like the rest, rapidly loses its waters in the dry season, so that the salt layers at the bottom may be reached. Near Knysna and elsewhere are shallow basins, called vleis, which overflow into one another in time of flood. These pools vary in hulk according to the humidity of the atmosphere.

-For the Mountains and tablelands.~ most part the three mountain chains are very well defined and their configuration simple to grasp since they follow the coastlines. Within the coast plain, which rarely rises to 600 ft., the abrupt sonthern slopes of the coast range ascend to a platean some 30 m. wide, known as the Little Karroo (Hottentot for 'arid'). The terraced formation is continued hy the second chain of mountains, which give on to the Great Karroo, a tableland whose area is something like 28,000 sq. m. The main belt of heights, shutting in this plateau to the N., fringes the immense plain of S. Africa, a strip of which only lles in this province. Thus in spite of a perplexing nomenclature, the strneture of the high lands is plain. Passing E. to W. the coastal chain is known successively as the Viteniquas, Langeberg, Zondereinde, Drakenstein, and Olifants mountains. The province E. of the Kei R. is very hilly, the southern portion being occupied by the Stormberg peaks and the northern the stormberg peaks and the northern by the flanks of the lofty Drakensberg. The central range E. to W. includes the Zuurberg, Winterhoek, Groote River, Groote Zwarteberg (greatest elevation 6989 ft.), and the Cedarberg Mts. Great gorges called 'kloofs' have been pierced in this chain by the rushing streams. The chain by the rushing streams. The third mountain rampart, running 120 m. inland from the shores, is variously named the Nieuwveld, Sneeuwberg (in which is Compass Berg, attaining the greatest altitude in the province, 8500 ft.), Zuurberg, and Stormberg ranges. The eastern coastis flanked by the Roggeveld and Komsberg mountains which continue the Nieuwveld. It is true that the contours of the mountains are often imposing, yet these will far from compensate, in the traveller's estimation, for monotony of the bare stretches of 'veld,' and for the deplorable de-ficiency in water and trees. The flowering shrubs and grasses have no sooner sprung up on the Bushman-land plateau (in the N.W.) than they are withered away by the hot suns, which undo the fertilising work of province can boast of no lakes, there the heavy rains. Cattle often find are many salt pans, the largest good pasture by the 'vleis,' if the heing Commissioner's Salt Pan, some soil is not too brackish, and water

alone is wanted to bring under good common characteristics of the plants. cultivation the many scattered de-posits of rich earths. The vast, treeless tableland to the N., whose average altitude is 3000 ft., is broken only by the great Orange R. which cuts across its whole length.

Climate.-The climate of the provinee is bealthy—a trutb that is amply demonstrated by the fact that the colonists from Nortbern Europe, who came ten generations ago, are still as vigorous as they were at the first settlements. As a rule the air is remarkably dry and clear. The mean annual temperature may be taken as less than 65°

range is very

variation on mnob as 27° F. The great drawback is the prevalence everywhere of dust, which is blown by every wind. The nature of the climate mainly depends on two factors: the elevation of the land and the great expanse of ocean in the lower hemisphere. It is the cold currents of the latter which give to Cape Town so low a mean temperature as 63° F., the same as that of the Italian Riviera, which is 8° farther from the equator. The mountain chains exhaust the rains of the moisture-laden winds from the E. and Thus these winds fertilise in plenty the coast-lands, but, as the more they advance into the interior moro they advance into the merior the drier they got, most of the province is subject to frequent and severe drought. Along the W. coast, N. of the Olifants, rain does not fall for years together. A line from Walfish Bay to Port Elizabeth, on the S.E., roughly divides the prov. W. and E. into the areas of winter and summer rainy seasons respectively. W. of 23° rainy seasons respectively. W. of 23° E., the mean annual rainfall is under 10 in. By the western coast and on the Little Karroo it varies from 10 to 20 in., but on the S. and S.E. eoasts it is over 25, in., and in the Cape peninsula sometimes rises above 40 in. The violent thunder-showers, which usually follow the dry hot N. wind from the desert, are the one source of rainfall to the arid northern districts. Dee. to Jan. are the hottest months, and June and July the coldest. On the northern plateaux and on the Karroo the mean minimum temperature is 49° F., and the mean maximum . Though the hot westerly winds make the daytime often oppressive, the nights are cool and refreshing. Frosts are fairly frequent in the winter, and whilst snow rarely falls on the coasts, it often caps the high mountains for months together.

Flora.—Along the coast the flora rich. Of the 10,000 varieties of is rich. species, some 450 are found only in Geology.—The geological structuro the province. Prickles and thorns are of the mountain ranges is fairly uni-

There are over 400 genera of the bush heatbs: the abundant rbenoster wood is not unlike heather. Aloes, 'everlasting flowers,' pod-bearing and the castor-oil plants are also indigenous. Among flowers the iris and arum lily are conspicuous, whilst the spurge plants, the elephant's foot, and the stapelia, or carrion, flower may be noted among plants structurally eccentric. Forests of trees rarely more than 30 ft. high cover some 550 sq, m. of the southern seaward slopes. The yellow wood (of the yew species), the silver tree, black iron wood, the inelkout, and the heavy, hard stinkhout are indigenous, whilst oaks, which grow luxuriantly, pines, and poplars have been introduced with success by settlers. Though the native fruits, including gourds, water-melons, and hard pears, are rare, most of the varieties introduced from other countries grow quite well. In the spring the blossoms of the dwarf mimosas on the Karroo are splendid. eoarse yellow grass covers the tablelands of the interior.

Fauna.—The fauna is very varied, though lions and rhinoceroses have been expelled and the blaauwbok and quagga exterminated. Zebras, clands, antelopes, gnus, buffaloes, and cle-phants now require special protection. Not so the cheetahs and leopards, which, like other carnivora—the silver jackal, wild cats and dogs, aard wolf and hyæna—are still fairly common. Springboks herd on the open veld, whilst other species of ungulata are the steinbok, the klipspringer, and the dassie rabbit. There are also baboons, otters, pangolins and other ant-eaters, mongooses, jerboas, and hares. Among reptiles may be men-tioned puff adders and other snakes, There is a lizards, and tortoises. great variety of game bird, including the ostrich, the huge kori bustard. the quall, teal, snipe, widgeon, and many others. Eagles, faleons, owls, and aasvogels, besides flamingoes, pelicans, and cranes, are also found. Most of the birds belong to the Passeres order. Larks, weavers, and starlings—the English starling is the only naturalised European bird-are the commonest varieties. Of endemic insectivora, the 'golden mole' is notable for the splendid lustre of its yellow fur. Jumping shrews, tarantula spiders, scorpions, toads and frogs, and the poisonous teetse fly are also native to the Colony. The large baba and vellow fish occur in fresh water, whilst in the sea are found seals, sharks, whales, steenbrass, snock, and many edible species.

form, most of them consisting of huge are the staple imports. In 1905 the masses of quartzoze sandstones on value of the latter was only £20,000,913 surfaces of the karroos and northern levied on most commodities after the plateaux. The three systems are revision of the protective tariffin 1906. known as the Cretaeeous, Karroo, and Cape systems, whilst there are also a well-organised postal service, the pre-Cape rocks that are little province is connected with Europe by

Agriculture and allied industries.to promote th tracts of land.

Still, water. oats, wheat, barley, and ryc yield has been instituted in the towns, good erops. The vegetable produce Railways.—The railways also eonsists chiefly of potatoes, mangolds, peas, and beans. Most of the farmers live by sheep-rearing, but although in 1904 the number of sheep was registered as nearly 12,000,000 and the aggregate number of goats, cattle, horses, and asses as 9,000,000 odd, these figures show a slight decrease on those of 1891. The number of domesgrapes, apricots, oranges, and peaches for foreign markets. The annual fruit runs harvest of eaeh millions. 7,000,000 busbels of wheat are annually ground in the flour-mills, which are second only in importance to the diamond mines as a source of industrial wealth.

Mining.—The diamond mining is carried on in Kimberley, which yields more diamonds than all the other mines combined, Hopetown, Griqualand West and other places near the Orange R. It is worth £4.250.000 a There are a number of collieries in the Stormberg district, and copper, gold, tin, and salt are also found.

Trade.—75 per cent. of the imports come from British dominions, and

granite bases. Whilst the granite as compared with £33,761,831 in 1903. when it occasionally crops out has The exports in 1905 were worth rounded contours, the formation of £33,812,210—more than double their the sandstone, as on Table Mt. is flat. value in 1902. In that year the intense The latter often eovers the primitive depression in trade eaused by the rock to a thickness of 1750 ft. The Boer War was still operative. Transit Stormberg chain alone presents traces of goods to and from the Transval of recent volcanic action. Ferruginous and other colonies considerably aurreddy sands and argillaceous clays, ments the commerce of the province. resting on blue slaty rock, form the An advalorem rate of 15 per cent. was

Posts and telegraphs. - Besides four distinct cable routes is in com-Agriculture and allied industries.— plete telegraphic communication with Artificial irrigation is badly needed all the S. African states, and has

m boundaries system under phone service

Railways .- The railways also are for the most part owned hy the state. The first was built in 1859 from Cape Town to Wellington as the result of private enterprise, but in 1871 parliament hegan to construct railways at public expense. The Western, Midland, and Eastern are the three chief systems. Of the first system the main line runs from Cape Town through Kimberley, Vryburg, Mafekinz, Bulb-wayo, and the Victoria Falls (1623 m.) those of 1891. The number of domesticated ostriches on the farms in 1904 kimberley. Vryburg, Mafeking, Buluwas 357,000. Mules are bred on the wayo, and the Victoria Falls (1623 m.) veld. Statistics give the annual output of wine (and brandy) as 7,500,000 gallons, which testifies to the prosperity of the vine cultivation. Vines are grown chieffy for home consumption. There is only a very limited demand for the Cape wines in Europe in spite of the fine flavour of the crapes. Rapid improvements in the transport service have made it worth respectively. lines at De Aar. The Eastern system runs from East London to Springfontein (314 m.), which is a junction for the Bloemfontein railway. series of railways eroses the Colony, running E. and W. parallel to the coast.

Other communications. - The western ronte to the Cape is via Dover to Cape Town, the eastern is rid the Suez Canal and Natal. There are steamer connections also with Australia and India, and a hne from Ham-

eighteen oxen dragging a load of some four tons.

Races and population.—Of the two almost all the exports are sent there. Indigenous tribes, the Bushmen and The principal exports are diamonds, the Hottentots, the former have regold, wool, ostrich feathers, hides, treated before the settlers and have and copper, whilst textiles, food been much reduced in number, and stuffs, hardware and machinery, etc., the latter are now nearly all halfbreeds of Hottentot, Dutch, and Education.—There is a state system Kaffir blood. The Kaffirs come from of primary education, which, how-the Bantu negroid stock, their chief ever tribes being the Beehuanas, who live N. of the Orange, and the Fingoes, Tembus, and Amaxosa. The Griquas Tembus, and Amaxosa. The Griquas mir ants. are half-eastes of Dutch-Hottentot There are special day and industrial blood. A number of Malays, whose schools for the natives. The elebond of pnion is their Mohammedan religion, have settled round Cape Town. The country is chiefly populated by Dutch (and German) farmers who speak 'taal,' a corrupt form of their own original tongue. The Boers are remarkable for their good fortified against naval attacks, and physique, their determined character, a garrison of the British army is and their ignorance of lears

all towns English is commonl In 1904 the white pop. was the proportion of British t being about two to three. E 75 per cent. of the pop. is and moreover, this percentage. to be ou the increase. However, in became the S.W. corner of the r

white pop, is actually the stronger. Only a ver-

portion of the people live any distance figures (?

than tho Chief

is the only inland town of importance. The pop. of Cape Town, the capital, including the suburbs of Woodstock, Wv and

East holden importance. In the western half of xt in the province the towns with a pop. over 3500 are Worcester, Caledon,

Aliwal North (the largest on the Orange War of Fact and Simon's

Church has a greater membership than any other. The Methodists, eight-ninths of whom belong to the cans. The latter community has -- abbighenrie at Cane established a-8 Town and a

Town, for the other sects, represented.

tion vhich ad-

^ capital.

are the per but the Cape fully armed. istration tised. What

at. wn, me 109.

inland. Since early yeas there has been a steady stream of immigration. In 1903, after the war, the number of year when it was finelly recognised minigrants was phenomenal, namely as an English colony—as the dividing 61,870, that is, 30,000 more than the emigrants. But in 1905 the outgoing Diaz (in 1486) and Vasco da Gama figures (5) $H \imath s$ (1498), were the first explorers to round the stormy Cape. Though from that time onward Portuguese, Dutch, and English traders rarely went to the E. by the Cape route, the first definite step towards acquisition was taken by the Dutch E. India Com-pany in 1652, when it established a fort at the foot of Table Bay, and made a small settlement, with the object of ensuring a fresh-water supply for their merchant vessels in their passage to the E. Indies. But the eompany was early induced to cultivate the fertile earth and to found a colony as well as a water station.

many protests against its jeaious monopolies in the proved quite in the France seize running at right angles are generally client of this at the Cape was that grouped round a central market place. an English force held the Cape was that Religion.—The Dutch Personnel and English force held the Cape was that Peace of Amiens (1810), when it was given back. After about four years' rule under state administration, this time, instead of the company's, an English force (about 4000 strong) was again landed in the Colony to forestall any efforts the st common enemy, France, might make re to capture so prosperous a land. General Janssens, the Dutch general,

over some years, the Colony was re-cognised by the European powers as a British possession. Once the company with its narrow, selfish ambitions was removed, agriculture and industries, especially sbeep rearing for wool, advanced by leaps and hounds. But in the course of its rapid development the Colony ran np against other disturbing forces. It happened that the native Kaffir tribes were expanding southward at the same time that the Colony was pushing N. The contact of Kaffir and colonist led to a series of wars, the obvious cause of which was the cattlelifting propensities and the predatory babits of the former. But the wars were really an expression of the inevitable conflict between tribal laws and European administration, a con-flict which allowed of no settlement; compromise. The disastrous battles at last brought home to the English government the need of con-trolling native territories by imperial administration. This was actually carried into effect by the Scanlen ministry. Paternal government of the natives outside the Colony was substituted by the Upington-Spring winistry. Longony who is 1800 ministry. substituted by the Chington-spring ministry. Jameson, who in 1896 made an unsuccessful raid into the Boer territory of the Transvad, was a doctor at Kimberley. C. C., especially Kimberley, played an important part in the Boer War (1899-1902), but the Cape rehellion ended early in 1900. Mr. Cecil Rhodes, who was president of the province from 1890 to 1896, pursued an imperial policy in charge. pursued an imperial policy in sharp contrast with that of the Bond party. The latter, stimulated by the active encouragement of the famous Afrikander Bond, hoped in vain to estahlisb a Dutch republic. See BRITISH EMPIRE-Cape Colony.

Constitution .- The constitutional development of the Colony was much more rapid than in the older coun-As in the first instance the governors of the Colony were autocrats, it was a fortunate thing that many of them proved men of ability and public spirit. The first executive council was called in 1825, and ten years later the first legislative council. one half of which was nominated by the governor, the other by the crown from its officials. In 1853, at the instance of the council and with crown support, a House of Assembly and a Legislative Council were conceded to popular wish. Finally, responsible government' was put altogether in the hands of the Colony in 1872. As early as 1829 it was decreed that men of all nationalities were to enjoy alike

was obliged to capitulate. Thus after and every slave was emancipated in a military occupation which extended 1838. By the South Africa Act of 1909, the Colony entered the Union of S. Africa, sending 51 representa-tives to the House of Assembly and 8 to the Senate. Its former constitution was naturally revoked. A provincial council, elected triennially, consisting also of 51 members, con-trols local taxation and all matters that concern the Colony only. Thus the 'province of the Cape of Good Hope' is now a self-governing member of a large federal state. Cape Fear River, N.

Carolina, U.S.A., formed by the junction of the Deep and Haw Rs., enters the Atlantic

at Cape Fear, 20 m. S. of Wilmington. Capeligue, Jean Baptiste Honore Raymond (1802-72), a French his-torian, antiquary, and politician, horn at Marseilles. His works are still read for their vivacious and picturesque style, but they are neither very deep nor accurate. Their number extends to close on 100 vols., and include Histoire de Philippe Luguste, 1829; Histoire de la Restauration, 1831-33; Richelieu, Mazarin, et la Fronde, 1835-36; Philippe d'Orléans, Régent de France, 1838; and La Ligue, 3rd ed., 1843. Cape Haitien, a tn. in the republic of

Hayti, and an episcopa see, situated in a magnificent harbour 5 m. from Port an Prince. Under the French government it was the capital of

government it was the capital of Hayti. It is connected by cable with France. S. America, and San Dominzo. In 1842 it was the scene of a terrible earthquake, and in 1865 the town suffered great damage through bomhardment by the British. Pop. 30,000. Cape Henry, Action off. The British in 1781 occupied Portsmouth on the James R. in Chesapeake Bay, N. America, and the French squadron at Newport, Rhode Is., proceeded thither under the command of Commodor des Touches. He was met by modore des Touches. He was met by Vice-Admiral Marriot Arhnthnot off C. H. on March 16. A fight followed which was indecisive, the French losing heavily. The result of the hattle was that the English once more gained command of Chesapeake Bay.

Cape Horn, a headland on a small island of the Fuegian Archipelago. forming the southernmost point of S. America, 1t was sighted by Drake in 1578, and named by the Dutch in 1616.

Capel, Arthur, first Baron C. of Hadham (c. 1610 - 49), a brilliant Royalist soldier, member of the Short and of the Long Parliament. He acted as the king's lieutenant-general in Chesiure and N. Wales. He accompanied the queen to Paris in 1646. and helped Charles to escape from the advantages of the common law, Hampton Court in the following year. was obliged to surrender in 1645. He was imprisoned in the Tower, escaped, and was re-arrested, tried, and be-

headed. Capel, Arthur, Earl of Essex (1631-83), a British diplomat. He fought for the king in the Civil War, and, on the accession of Charles II., was ap-pointed lord-lientenant of Hertfordshire. He was sent as ambassador to (1670) and made Denmark lordlieutenant of Ireland. He opposed the court party and supported the Exclusion Bill. He took part in the (1682), for Monmouth conspiracy which he was committed to the Tower, where he was found with his throat cut.

Capell, Edward (1713-81), English Shakesperian critic, born at Bury St. Edmunds: lived mainly in Hastings and London, where he was deputyinspector of plays. His edition of Shakespeare in 10 vols. with introduction, which appeared in 1767, is said to be one of the purest texts extant. He also wrote Notes and Various Readings of Shakespeare, 1775; and The School of Shakespeare,

1783.

Capella, or Capra, a bright star of the first magnitude (0.2) in the constellation of Auriga, of which it is the brightest. In 1899 Professor Campbell and Mr. Newall discovered it to consist of two sunlike bodies revolving round each other once in 104 days. The luminosity of C is at least 100 times as great as the table of the 104 days. The luminosity of 0.13 aleast 100 times as great as that of the sun. Proper motion 44" a century.

The sun Mineus Felix.

Capella, Martianus Mineus Felix. a Roman writer living about the 5th century. His chief work, an encyclopredle compilation and known as Satyricon, and drawn from Pliny and Varro, was much used as a school book during the middle ages. Eyssenhardt brought out a new edition in

1866.

Cape of Good Hope, formerly Cape Colony (q.v.) in S. Africa. It is named after the promontory on the S.W. eoast discovered by Bartolomeo Diaz in 1488 and named then 'Cape of Storms,' but afterwards re-named Capo of Good Hope by the King of Portugal. The coast is low, flat, and sandy, but bolder on the S., commeneing with the flat-topped mountain called Table Mt.

Capercailzie, or Tetrao urogallus, a species of grouse of the family Phasianide, and is the largest gallinaccous bird of Europe. Besides the above bird of Europe. Besides the above name it rejoices in several others, such as the capercally, capercaillie, wood-grouse, or cock of the woods. The C. ls about the size of a turkey and resembles the blackcock in appearance the Great, Count of Paris, In 987, at

With Sir Charles Lucas and others, and polygamous habit; the general he gallantly defended Chester, but colour of the male is blackish-grey above, black below, with a dark green chest, while the female is smaller, mottled, and has a reddish breast barred with black. The feathers on the legs and feet are longest in wintertime, and the toes are quite naked. At breeding-time the male indulges in curious love-songs and anties to attract a mate, and fights between rival cocks are of common occurrence. The food of the birds consists of insects, worms, berries, and young pineshoots. The C. is widely distributed in countries where pine-forests abound; at the end of the 18th century it was exterminated in Scotland, but in the middle of the 19th it was successfully reinstated. See J. G. Millais' Game Birds, 1892.

Cape River, otherwise known as Coco, Segovia, or Wanks, in Nicaragua. It forms the boundary between Nicaragua and Honduras. It is 300

m. long and flows into the Caribbean Sea. Navigable for 140 m., though its mouth is barred by a sandbank. Capern, Edward (1819-94), an English poet, who was born at Tiverton in Devonshire. He wrote under the Devonshire. He wrote under the pseudonym of 'the Rural Postman of Bideford.' Under this nom-deof Energy and Charles in Some poems in 1856; Ballads and Songs in 1858; Deronshire Melodist, with music, in 1862; Wayside Waybles in 1865, and Sun Gleams and Shadow Pearls in 1861 Dickson Energy in 1865, and Shadow Pearls in 1861 Dickson Energy in 1864 Dickson Energy in 1865 1881. Diekens, Kingsloy, and Tennyson all recognised the merit of his work and were duly appreciative.

Capernaum, anet. city of Palestine. mentioned in the N.T. It is usually identified with the modern Tell Hum. on the N.W. coast of the Sea of Galilee, but occasionally with Khan

Galilee, but occasionally with Khan Minich, a little further south.
Capers, see CAPPARIDACE.E.
Capes, Bernard, a living novelist.
His chief works are: The Lake of Wine, 1898; From Door to Door, 1900;
A Castle in Spuin, and The Secret in the Hill, 1903; A Rogne's Tragedy, 1906, and The Green Parrot, 1908; The House of Many Foices, 1911.
Cape Sable Island, situated at Settemity of Nova Seotia. C. S. is the

extremity of Nova Scotia. C. S. is the

most southerly point.
Capesterre, La. or Le Marigot, a tn. in Guadaloupe, French West Indies. 12 m. E.N.E. of Basse Terre. Pop. 8000.

Capet, the family name of the 3rd Frankish dynasty. This family ruled France in a direct line from 989-1328, and through the collateral branches of Valois and Bourbon until the revolution in 1789.

Capet, Hughes (987-996), King of France, b. about 940, the son of Hughes

the death of Louis V., the last of the Museum and Public Library (the gift Carlovingian line, he assumed the of Sir George Grey); the Observatory

bereditary succession to the monarchy, eeeded by his son Robert, and his bosel, No heirs ruled France till the revolution Wynberg. of 1789.

Cape to Cairo Railway. Cecil Rhodes evolved the scheme of running a railway right from end to end of the continent of Africa, traversing British territory as much as possible and aeting theroby as a connecting link between all British possessions in The branching side lines are and will always be probably the source of most revenue to the company. The distance between Cape Town and Cafro is 5700 m. The first passenger train arrived at the Victoria Falls on June 22, 1904. At this spot the Zambesi R. is spinned by a steel canti-lever bridge, which is 380 ft. above

colony, on Table Bay, and at the foot sq. m., and ten of the islands, the of Table Mt., 30 m. N. of the Cape of the the color of the islands, the Good Hope, Table Bay is not a good Bray natural harbont, being exposed to N. The and N.W. gales, but a breakwater of and largely of volcanic formation, 3640 ft. has been constructed to but some ancient granites and shelter shipping, and there are completely guesses point to a continental origin, and has a good water-supply coming rainy season in August and Sept., Table Mt., from

tram service and a s The chicf bullding

sovereignty of the whole of France, (1820), which is the finest in the and founded the third, or Capetian, southern hemisphere; the Castle (a dynasty. He was accepted by most fort 400 years old); the Houses of of the nobles, but lus claim was defeated by Charles of Lorraine, the ment House; the buildings of the rightful heir of Louis V., whom, how-university of the Cape of Good Hope ever, be defeated. His rule was wise (1873), which is an examining body and moderate. He rallied the great only; and the Botanic Gardens. The sals, and Government Gardens, containing a part of fine oak avenue, serve as a public There are numerous fine and ablished | park. pereditary succession to the nionarchy, populous suburbs, including Green and made the king's cldest son Point, Sea Point, Woodstock, Maitmaster of the palace. He was succeeded by his son Polace and the palace of the palace. Newlands, Claremont, and Wynberg. A chain of well-armed forts extends along the sbores of Table Bay. The climate is somewhat similar to that of the Rivlera, the mean annual temperature being 62.3° F., Jan. 69.9° F., July 55.1° F., with a maximum of 102° F. and a minimum of 34° F. The mean annual rainfall is 24.8 in. The city is an important port of only but is cascalta Boxt Wifeof call, but is second to Port Elizabeth in foreign trade. It was founded by the Dutell in 1652. Pop. 167,000.

Cape Verd, the most westerly cape In Africa, situated in Senegambia. It was discovered in 1443 by Nuno Tristao in the time of Henry the

Navigator. Cape Town, cap. city of Cape Leewards, comprising Maio, Santiago Colony, Africa, on the N. slde of the Cape peninsula in the S.W. of the Bombo. The total area is about 1480

gueisses point to a continental origin, snetter shipping, and there are completies point of a confinemal origin, modious wet doeks, opened 1870, a and on some islands, as halo, there dry dock, and a government patent, are sedimentary deposits. The main slip with a lifting power of 1000 tons. Deals are the volcano of Force (8800 The recently constructed outer bar-fit,) which was active in 1847; the bour has a minimum depth of 27 ft. Pico de Santo Antonio, on Santlago The town is the terminus of several (7380 ft.); and the Pao de Assucar, on railway lines. It was laid out after São Antão (8000 ft.). The climate is the Dutch fashion with geometrical tropical, though tempered by sea precision, is well drained and paved, breezes. There is only a very short

meh distress and famine is by drought. The soil is not ertlle, and trees are especially cathedrals, Anglican and Roman rare, but coffee, sugar, Indian corn. Catholie; several Mohnmmedan beans, oranges, grapes, peanuts, mosques; the S. African Collego; the cacao, cotton, tobacco, cluehona, and

ls found in the southern islands, and between it and another medium (sa) salt, amber, archil, and red coral are also largely exported. Cattle-rearing is extensively carried on, and the coasts abound in turtles. The inhabitants, mainly negroes and mulattos, aro very indolent, and speak a de-based Portuguese. Porto Grande, on São Vicente, is a coaling station. The Portuguese discovered the islands in 1441-56. Pop. nbout 150,000.

Cape Wrath, the most westerly point on the N. coast of Scotland, in the eo. of Sutherland. It is one of a series of wild eliffs formed of gneiss,

and is 300 ft. high.

393-1464). historian. He

...id became an Augustinian friar. He wrote in Latin Bible Commentaries and Nova Legenda Anglia in the year 1516. He also wrote Vita Humfredi Ducis Glocatria. His chief English works were A Chronicle of England from the Creation to A.D. 1417, and a metrical Life of St. Katharine.

Capias (Lat., 'that you may seize')

a common namo once used in legal praetice to denote a number οŧ different writs directed to the sheriff. commanding him to arrest some person named in the writ to come up for judgment, discharge a fine, or porform some other legal obligation. The writ of attachment for contompt has replaced the old C. for all

praetical purposes.

Capillaire, a sort of syrup concected from the Majdenhair. It is used in medicine as a pectoral and sometimes

as an astringent.

Capillarity (Lat. capillaris, pertaining to the hair), the phenomenon which occurs when a fine tube, open at both ends, is placed vertically in a liquid; the surface of the liquid at Capistrano in the Abruzzi. within the tube is usuall the order of the Franci

or below the surface

eondition is only obser eonjunction with Bernhardin diameter is small, hence tubes which of Siena, and he preached against diameter is small, incree cubes which this property are called capillary or 'hair-like' tubes. A similar effect is produced when two glass plates are held vertical and parallel a short distance apart in a liquid; the liquid forms a film between the two plates. If the plates are pulled gently to the Roman Church. Ho had been apart at one side so as to form a very sent to Moravia as papal legate in acuto angle, the surface of the con-1451. When in Silesla he incited the tains a similar sent to persecute the Laws and later

diste liquia at the point of the angle. Thus Constantinople. C. diminishes as the distance between | Christians to Belgrade in 1456 to belp the walls increases, the ascent between smooth glass plates being, release that town from the hands of however, only one-half of the ascent the Turks. He was canonised in 1724. in a tube of the same diameter. Every

indigo are grown and exported. Iron liquid has at its bounding surface several have guano deposits, while air or glass) a surface tension, or tendency for the surface to withdraw itself into the smallest possible area In small amounts of liquid, this tendency is sufficient to overcome the effects of gravity, thus a minutequantity of mcreury becomes on a flat surface a globule that is practically spherical, whilst a larger amount simply shows a convexity at the edges, gravity having produced that took upon

In the rould he ...ree sub-

stances in contact, such ns glass, air, and water, and the form taken by the visible fluid surface, i.e. that of the water, depends on the relative attracting power of the three substances on cach other. Thus whilst water rises in a capillary tube and presents a concave surface upwards, mercury is depressed and has a convex surface. C. is a widespread phenomenon; oil rises in the wicks of lumps, moisture in the roots and stems of plants, by virtue of C. All substances with pores of sufficient size are capable of sucking up water, e.g. blotting paper, sponges. See Surface Tension.

Vessels, Capillary the smallest blood-vessels in the body. Tho arteries which convey blood from the heart are split up into myrlads of branches which vary from a five-hundredth to three-thousandth part of an inch in diameter. By their means the blood is supplied to every part of the body. the flow depending on the direction of the central intelligence. The capil-laries rounite in the veins, by means of which the impure blood is returned

to the heart.

Capistrano, Giovanni di (1385-1456), an Italian Franciscan preacher, born

the order of the Franciscans He helped to reform his conjunction with Bernhardin

many heretical orders which had come into existence in Italy, especially the Fratricelli. He was twice made vicar general. He was such an eloquent speaker that he converted many of the Hussites of Moravla back to persecute the Jews, and

vere burned. He also preached the Turks after the fall of He took 40,000 John Hunyady, and also assisted to

Capital may be shortly defined as

people—argued that while political are generally regarded as forms of C., economy was right in bolding that the although it is true that the accumulations umption of surplus products by ition of C. proceeds slowly or rapidly productive labour was a feature of in proportion as one or other of these accumulation, it was wrong in bolding that all surplus value that is lent. As to the relation of profits to changed into C. became such C. as accumulated C., John Stuart Mill lays was represented by labour power, it down that in proportion as C. in-With the same critical analysis of prevalent principles of economists, h. C. is more Marx considered that private property, based upon the labour of its (Principles of owner, had become by the evils of our is generally arguer in the control of the profit is favourable to accumulation; of labour and of accruing profits restate of civilisation has a tendency to served for development, and generichek. In ordinary parlance C. and ally to extend the means of progress money are synonymous: hut it is necessary to an advancing commentariely erroneous to suppose that C.

that part of wealth which is accumu-| munity, constitute a collective abstilated in order to assist future pro-duction. In commerce the term is labourer for the ultimate good of all, used to express the stock of the merand that, because the capitalist post-chant, manufacturer, or trader, used pones or denies himself the present in carrying on his business, in the enjoyment of a portion of his means purchase or manufacture of com- of consumption in the expectation of modities, and in the payment of wages prospective reward, C. is justified in of labour; in this sense it includes claiming such reward, whether by of labour; in this series it includes the challeng such tward, whether by not only money, but buildings, ma, way of rent or interest or profit. It chinery, and all other material objects is further argued that wages are paid which facilitate commercial opera not ont of labour but out of C. It may those. In a more extended form C. be said that the ultimate source of embraces not only the C. of particular both wages and profits is the value individuals, but the entire C. of a of that which labour and C. combine country, in which latter sense it may to create, and that no progress can be defined as the products of industry be made in any sphere of industrial possessed by the community, and still activity without the help of reserve possessed by the community, and still activity without the help of reserve available for use only or for further funds, controlled by few or more production. C. may be applied either persons who risk those funds for directly in the employment of labour, to directly in the employment of labour, to directly in aid of labour; it may be spent in the food and clothes of labourers, or in tools and other auxiliary machinery, to assist their labour and increase its productive-labour and increase its productiv is the basis upon which everything tinction amongst political economists. else rests—the juridical, the religious, Adam Smith classes the one as C. and the political, the social life of the the other as revenue. Both, however, people—argued that while political are generally regarded as forms of C.,

Capital

civilisation replaced by what he profit is favourable to accumulation; termed 'capitalistic' private pro- also that rich and populous countries termed capitalistic private property, hased on the labour of other persons than the owner of the they enjoyed it, their C. would conproperty. Henry George, in Progress, tinne to increase more rapidly than it and Poverty, contended that the wages of labour were paid from the value of that which labour produces, and that therefore labour produced its own remuneration. As against these town remuneration of the produced its own remuneration of the produced its own remuneration. As against these condens that the accumulated savings for the produced its own rand of accuning profits resisted of civilisation has a tendency to

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they were so, it would be untrue to say that C. was one of the requisites of the production of wealth, for monoy in itself does not assist in the pro-duction of wealth. The bank deposits of a country form what is called its floating C.' Such deposits may be withdrawn soon or late, or, on the other hand, may continue to accumulate for a long period; hut in any case they are the actual money values of wages, rents, profits, commodities, and interest, placed temporarily or permanently at the service of the community for social uses in exchange for a rate of interest. Such deposits are not convertible into an equal amount of hullion, much of them heing in the form of bills, securities, heing in the form of bias, because, etc., and a country is deemed richer in proportion as these deposits increase in amount, because such inference favours an extension of resources for employment.

Capital, in architecture, see Column. Capital Account, see BOOK-KEEPING. Capital Punishment means punishment of death for crime in conformity with the sentence of a properly constituted tribunal, civil or military. Whatever may have been its origin, whether in feelings of revengo, regularised by the lex talionis (the law of 'an eye for an eye and a tooth for a tooth'), or in theories of retribution or deterrence, C. P. is a term opposed to all irregular modes of punishment such as the American 'lynch law,' or any modern survival of 'blood-avengers.' C. P. Is so named from the Lat. caput, hecauso hanging or decapitation were the most usual modes of C. P. In Roman law, however, the term appears to o forms

certain acts. In more primitive societies, when civil tribunals were far from being of certain authority or possessed of adequate machinery for enforcing their decrees, the punishment of murderers or other homicides was, as in the case of most other kinds of criminals, a matter for self-redress. A modern survival of this is to be found in the Corsican vendetta. Sub-sequently, in England during Saxon times, man-slaying becomes the subject of compounding by the payment of what was known as 'wer-gild,' or ' blood-monoy,' the amount of which varied with the degree of importance

and money can be the same thing. If | from rocks, after the manner of tho Roman custom of throwing malefrom the classic Tarpeian factors Rock. After the Conquest mutilation seems to have been substituted, and this is the punishment mentioned in the Assizes of Clarendon and Northampton (temp. Henry II.). The law was variable but gradually

condition the mon punishment for a great number of erimes, comprising treason and all felonies except larceny and mayhom (wounding). This state of things continued down to 1826, at which time there were nominally no fewer than 200 crimes punishable by death. The law and practice were, however, somewhat divergent, and as Bentham points out in his Theory of Legislation both juries and judges resorted to all manner of subterfuges to evade the literal harshness of the law. The strict letter of the common law was also subject to the mitigating influence of the curious privilego of benefit of clergy (q.v.). Benefit of clergy exempted clergymen in certain cases from criminal punishment by secular judges. Afterwards the privilege hecamo extended to all, whether cierle or lay, who could read or stumble through the 'neck-verse.' Benefit of clergy was never permitted in cases of high treason or in offences not capital. At the present day in Engcapital. At the present day in ang-land the only capital offences are treason, murder, piracy with violence, and the crime of setting fire to His Majesty's vessels of war, arsenals, military or naval stores, and ships in the port of London. The sentence of C. P. may also he passed by courts-martial lu various cases of mutiny martial in various cases of mutiny, desertion, or sleeping on sentry duty. There has been no execution for treason for a century or more. the old barbarous features of punishment for treason, comprising the drawing of the traitor's body to the place of execution on a hurdle, disembowelling, and quartering body, would certainly not be applied nowadays.

Most countries In the Old and New World still retain the death penalty for treason and murder, and, in some cases, for other crimes. France, in more modern times, tried the experiment of abolishing the sentence for a period, but with disastrous results. It exists in Austria-Hungary, Belgium, Denmark (where it is the punishment also for rape and piracy), white with the degree of importance in the social scale of the inurdered person.

History of capital punishment.—In pre-Norman times there were various Switzerland, and Italy; in the last-forms of C. P., including hanging, decapitation, hurning, and hurling largely influenced by the enotional Beccaria. In Russia C. P. can only be inflicted by martial law. The general trend of public opinion is by The no means averse from the death penalty as a fit sentence for murder at least. In England an attempt holf a century ago to abolisb it in the case of setting fire to arsenals and ships was defeated. The feroeity of our own law up to 1826, apart from the fact that the letter of the law was frequently ignored, was such as to occasion an outburst of indignation in the writings of Goldsmith and In conformity with his generol theory of punishments and rewords, that the cvil of punishment must not exceed the advantage to the offender of the offence, and that punishment should be exactly and mathematically proportioned to the offence, Bentham would have abolished the death penalty in most cases. retaining it only for treason and murder. Bentham does not appear to have condemned publicity in executions, but rather favoured the idea of the auto-da-fé, provided only it were an act of justice, carried out with every solemnity of preparation and ceremony, and not regarded as an act of faith. Bentham was greatly in-fluenced by the writings of Beccario, in the legal notion of murder. Only and in one passage says that and in one passage says that more attention one gives to the pen of death, the more will he be incl. to adopt the opinion of Beccar that it ought to be disused. Ir cloquent passage ho conceives the prodigal fury involved in C reveals an imbecility of soul w sees in the destruction of the conthe most convenient way of securing thot he shall no longer be an object of concern to society; and he con-cludes his words on C. P. by denying the validity of the deterrent theory to the head), in contradistinction to on the ground that most fear death less than w humibation. Beccaria, in his published in 1764, argues ogainst the capital sentence being carried out in any case, denying the right of man so to punish, and mointaining that it is a less efficacious mode of deterring others than the continued example of a living culprit condemned by labouring as a slave to repair the injury done to society. Beecaria's work had the merit of attracting greater attention to the subject of crime and punishment; yet it contains many principles of very doubtful value, and some deductions that ore not sound. Romilly's criticism that Beccaria's admission of the right of human tribunals to inflict certain more severe

writings of the celebrated Marquis | right to inflict the less severe penalty Kant also of death, is almost fatal. destroyed the value of a good deal of Becearia's teaching. In contradistinction to Beccaria, Bentham holds that death is regarded by most men as the greatest of all evils, and hence the most efficacious as a form of punishment. C. P. has also been opposed on religious, moral, medical, and legal grounds. Lombroso, after the manner of Plato's morbid theory, sees in murder a manifestation of criminal atavism, deeming the crime a form of disease. Theories of irresponsibility or irresistible impulse to homicide, find, however, no favour in England, and the English criminol law has nothing analogous to the crime passionelle of France. The religious idea that the death penalty robs the criminal of his duc time for repentance has also but few sup-porters. The question of C. P. in the United Kingdom was considered by a Royal Commission, mitted its report in 1866. The commended, inter alia, missioners recommended, inter alia, the restriction of C. P. to high treason the law os to tho abolition d tho instituto public

e never in but the are often uction of Theory of

1 istory of 'England; On Russell, Crimes: Pollock and Maitland, His-

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tory of English Law. Capitals (Lat. capitalis, pertaining

Crime in

Crimes and Punishments, first of poetry, of sentences, of proper lished in 1764, argues ogainst the names, etc., to help the eyo ond so facilitate reading. The ancients never used Cs. (majuscula) and small letters (minuscula) concurrently; either all Cs. were used or all small letters. All the old manuscripts are in Cs. alone up to the 7th century. After this time Cs. began to be used only at the beginning of books and chapters: they were often claborately illuminriteth capi-Trevisa.

Cs. were very much bigger than the small letters, and not, os in ordinary typo-graphy, about twice the size. There were two chief types of C.—the square and the rustie; the latter were and effectual punishments than and the rustie; the latter were death, involves an admission of the characterised by curves and by finer strokes. Cs. are in general use at the land in 1534 Michael Angelo was compresent day in nearly all languages. and their use is chiefly to help the reader. In the German language substantive initial every has an capital; in English Cs. were formerly used much more freely than they are now. Adjectives derived from proper nouns, as English, French, etc., have initial Cs. in English though not in French or German; so also have all nouns and pronouns referring to God. The pronoun I is always written with a capital; the Latins did not think it necessary to write in this way an i standing alone: the Latin verb ire. to go, had in the imperative i, and so It was written.

Capitanata, an ancient prov. of the kingdom of Naples, Italy, now called roggia (1.2.). It was bounded on the N.E. by the Adriatic, on the N.W. by the district of Samnio, on the S.W. by Principato Ultra, and on the S.E. by Basilicata. It is an agricultural district. Lemon, oranges, capers, oll, terebinth gum, cheese, cattle, and

ponies are exported.

Capito, Calus Ateius, Roman jurist of the time of Augustus. He became consul suffectus in A.D. 5, and curator aquarum publicarum in 13, and died in 22. He studied law under Ofilius, and was a rival of Labeo. C. founded the Sahiani school of lawyers in opposition to the Proculciani of Labco. Only fragments of his works

remain.

Capitol, Capitolium, Mons Capito-linus. The 'Capitol' (Lat. capitolium) was the term applied to the great temple of Jupiter Capitolinus and the other buildings, such as the citadel, and the Tabularium, built by Quintus Lutatius Catulus in 78 B.C., in which the public archives were kept, which stood on the Capitolino Hill (f.at. mons Capitolinus) in ancient Rome. The temple was founded by Tarquinius Priscinus about 600 B.C., and dedicated in 507 B.C. It was injured by fire during the civil wars of Sulla's time in 83 B.C., rebuilt, but destroyed again by fire in A.D. 69 and A.D. 80. It was again restored by Domitian. It formed the central point of the religious life of Rome, containing as it did the Sibylline books. To it generals went to make thankofferings to the gods for triumphant cam-paigns, and consuls to record their vows, while the senate often met on nade on which were statues of gods

missioned by Pope Paul III. to draw np plans for new buildings on the site. The C. now consists of a square, containing a statue of the Emperor Marcus Aurelius, the Campidoglio, huilt by Michael Angelo, but only an inferior example of his work, the Senatorial Palaee (1579), the Capito-line Museum (1614), and the church of S. Maria in Araceli. More than al cities built

lel of that at t at Capua. still exists. Breseia and

Pompeii.

Capitularium (Lat. capitulum, chapter, from caput, head), a name applied to the constitution or laws promulgated by the Frankish kings. These laws were classed under different chapters, called capitularies. The first collection of these was published by Ansegisel, Abbot of Fonte-nelle, in the reign of Louis the Pious. The best modern edition is that of Borctius, Monumenta Germaniæ his-

torica, etc., Legum Sectio II., vols. i. and il., 1883-97.

Capitulation denotes a series of articles in time of war constituting an agreement for the surrender to a lostile armed force of a fortress, town, piece of territory, or body of troops naval or military, with the detailed conditions under which the surrender is to be made. The term used to be restricted rather to the surrender of a beleaguered garrison, the agreement by which an army or a large division of troops surrendered to a superior force or engaged to account the territory

its strength such as to 1

the enemy, eumstances known as a Convention. Such was the convention of Cintra. made at Lisbon, between General Dairymple and the French general, on the departure of the French army from Portugal in 1808. When the provisions and ammunition of a garrison or force are nearly expended, and no chance remains of the siege being raised or the force succoured, the governor of the besieged town, or commander of the defeated force, is justified in entering into an agreement with the enemy respecting the terms on which he consents to surthe hill. The temple was surrounded render; and by the rules of war he is by minor buildings, and by an esplatentialed to obtain an honourable C. It is to be observed, however, that if and heroes. The steepness of the hill he should postpone surrender pro-rendered it an admirable natural posals till his provisions are entirely fortress. Near the temple was the exhausted, the enemy may refuse to Tarpeian rock, from which traitors grant terms, and he can then only were thrown. In the middle ages all surrender at discretion. The conthe buildings had fallen into ruins, ditions of C. vary greatly, and are

of eity

necessarily determined by the circum-I law, but the C. already made have stances of the case and the degree of generosity or patience of the victors. From the nature of the eircumstances of most Cs., no previous instructions are or can be required from the capitulation party's government before the final determination of the conditions of C. The conditions generally include the surreoder of the arms and military stores of the garrison or other capitulating body to the victors; the officers and troops retain only their private property, but are allowed to march out of the fortress or town, or to their place of destination, with the honours of war, that is, with drums beating and colours flying. Other very usual conditions are freedom of religion and sccurity of private property. Where a portion of territory is concerned, the territory and the magazines within it are yielded on condition of the force holding it being sent home with or without arms, and either subject to or free from an undertaking not to hear arms or serve for the remainder of the war. When necessary, a convoy is allowed the capitulating body for protection till they arrive at their destination. Where a C. is made by an officer who is not invested with the proper authority, or who has exceeded the limits of his authority, the C. is called a 'spon-sion.' Article 35 of the Hague Conmention of 1899 requires a sponsion to be confirmed by the express or implied ratification of the state or surrender,

the other side to accept the ratification, in order to be hinding. It is an implied term in the C. of a place that the capitulating force shall not destroy its fortifications, stores, or ammunition after)

tho ag Author Wheat Law;

Capitulations denote the arrangements and confirmatory treaty which foreigners are granted im-munity from the civil or criminal jurisdiction of the state making such Such arrangements and treaties necessarily constitute a derogation from the inherent sovereign rights of an independent state, and are only resorted to as against states which can hardly be said to be sufficiently far advanced in their civilisation to observe the general rules of inter-national law. An instance of such C. is furnished by the arrangements made at various times ever since 1535

never been abrogated on the ground tbat religious inequality and a cor-rupt administration are unlikely to

ensure justice to foreigners.
Capitulum (Lat. diminutive of caput, head), a botanical name for a particular form of racemose infloresshort and usually disc-shaped, and is covered with sessile flowers. It is is covered with sessile flowers. It is typical of the Composite. e.g. the daisy and daodelion. This C., or head, is vulgarly confused with a single

flower. Capiz, a prov. and city in the island of Panay, belonging to the Philippines. The city is situated on the N. coast, on a river large enough for small steam craft. The cimate, though hot, is considered healthy. Sugar and rice are largely cultivated, and to a lesser extent tobacco cacao. and Indian corn. The manuf. of alcohol, from the fermented juice of tho nipa-paim, is extensively carried on, and also cotton and hemp-weaving. The fisheries are important. Pop.

25,000, and of province

280,000. Capmany y de Montpalan, Antonio de (1742-1813), Spanish author. He served in the war against Portugal. but retired from the nrmy in 1770. and was nfterwards n prominent member of the Cortes of Cadiz. His principal works are: Teatro historicocritico de la elocuencia Española, and Historicas sobre la Marina, Commercio y Artes de la Antigua Ciudad de Barcelona.

Cap Martin, a pine-covered pro-montory which forms the western extremity of Mentone, in the dept. of Alpes-Maritimes, France. The principai feature is the huge hotel which is situated on the cape.

Capnomor, a colourless volatile oil and in wood tar from which, with ther products, it was first extracted y Reichenbach. It smells something ke ginger, and burns with a sooty flame.

Capo d'Istria, a tn. in the coast prov. of Istria in Austria-Hungary. It is a scaport town about 9 m. from Trieste. and is situated on an island in the Gulf of Trieste, the island being conneeted with the mainland by means of a bridge. Its chief products are oil and wine. It also trades in salt, and its fisheries are of considerable importance. Pop. about 11,000.

Capo d'Istria, John Anthony, Count (1776-1831), was born at Corfu. He had originally intended to become a doctor, but took up politics instead. He fulfilled several important offices between the various Powers and the in the Ionian Isles for a period of five Turkish Porte. Turkey is not now years, and was then appointed to outside the ambit of International manage the foreign affairs of Russia, in whose service be showed great Italy he strove to improve the concapability as a diplomat. In 1827 he gained the confidence of the Greeks. and became president of their country. At the same time he remained in the confidence of Russia, and destroyed his popularity in Greece by neglecting to work soiely in its interests, and by giving the impression that bis ultimate aim was its annexation with Russia. He was finally assassinated at Nauplia by brothers.

Cappadocia was a dist. in Asia Minor differing very much as regards its boundaries at different times dur-ing its history. It was originally a province under Persian rule, and included all the north-eastern portion of Asia Minor, bounded on the W. by the R. Halys and on the S. by the Taurus. Later on, while still under the rule of Persia, it was divided into two parts or satrapies, the northern one being ealied Cappadoeia ad Pontum, afterwards shortened to Pontns— also cailed Cappadoeia Minor—and the southern part Cappadoeia (Cappadocia Major). In A.D. 17 Cappadocia became a Roman province under Tiberius, and after this time the districts of Meiltene and Cataonia were added to it. Its two chief rivers were the Haiys and Meias.

Capparidaceæ, a dicotyledonous order of herbs or shrubs found in the order of heros or bureau tropies and warmer countries. The iateral, usually growing in racemes; the sepals are in two whoris of two, the petals are erueiform and four in number, the stamens are either four or more, the carpeis are usually two in number, superior, synearpous, and are borne on a gynophore. The fruit is a siliqua or a berry. The order ls a siliqua or a berry. The order greatly resembles the Cruciferæ in many respects, but few species are economically useful. The flower-buds of Capparis spinosa, which grows in S. Europe, are sold in sbops under the name of capers.

Cappel, a vil. of Switzerland, in the canton of Zurieh, 4½ m. N. of Zurg, and 10 m. S.S.W. of Zurieh. It was hore that the reformer Zwingle met with his death in the conflict of 1531. and a monument was orected to his memory in 1838. There is an old

Cistercian convent of 1185. Capponi, Gino, Marchese (1792-1876), Italian historian and states-man, member of one of the most illustriou

went to III., Gr · returned was rein

study. English institutions Impressed him very deeply, and on his return to Capricorn, Tropic of, see Tropics.

dition of the Italian people. On the unification of Italy he became senator and president of the Historical Commission for Tuseany, Umbria, and the Marches. His principal work is the Marches. His principal work is Storia della Repubblica di Firenze. He founded the Antologia on the lines of the Edinburgh Review.

Capra, the goats and ibex genus, is distinguished among the Bovide in having both sexes with flattened horns and the males with a beard and a strong odour. The species inhabit the mountains of Europe and Asia. C. ibex is the Swiss steinbok, pyrenaica the Spanish ibex, and C. agagrus the wild goat of Persia.

Caprera, a small island of Italy, situated to the N.E. of Sardinia, from which it is divided by a strait. It is 6 m. long, 2 wide, and about 6700 acres in area. There are pasture lands Garibaldi nad a and cornfields.

residence here.

Capri, an island at the extreme S. of the Bay of Napies opposite Cape Campanella, about 9 m. in circum-ference. It is composed aimost en-tirely of calcareous rocks, and the scenery is oxtremely beautiful. Solaro, commanding an extensive view, is the bighest point in the island. Capri, the capital, is situated on one of the accessible spots on the island, and possesses a cathedral. The other town in the island, Anacapri, is reached by a very narrow road cut in the rocks. N. of this town is the 'biuo grotto,' for which the island is famous. It is a eavern entered from the sea, and obtains its name from the reflections of blue seen everywhere. The Roman Emperor Augustus resided in C., and his palaees were afterwards enlarged by Tiberius. The remains of the Villa Jovis, one of the largest built by him: are still in existence. It is said that Tiberius lived a life of crime and debauehery here, and that from a high rock on which one of his palaces was built he used to huri people into the sea. The chief products of the island are wine, oil, oranges, and figs. Pop. about 5000.

Caprie Acid, or Decoic Acid (C10 II 2002), ls found, together with caprylie and caprole acids, in butter, and also in cocon-nut and fusel oils. It forms slender needlelike erystals. and has a faint odour somewhat like

goatskin.

Capriccio, in musie, the term

lly represented the forepart of part of a fish.

It marks the winter solstice, and was regarded by the ancients as a precursor of good fortune. It contains no large stars, the most important being only of the third magnitude.

Caprification, a curious and ancient habit still extensively practised in the Levant for the maturation of figs. It eonsists in planting wild fig-trees among trees bearing cdible figs, grafting them on the cultivated plants or mercly hanging the hranches upon them. The Caprificus, goat, or wild fig, bears male flowers, and the cultivated fig chiefly female flowers, so that by introducing the former to the latter fertilisation may be effected by means of wasps and parasitic insects.

Caprifoliaceæ, a monocotyledonous order represented in temperate countries, consists chiefly of trees and shrubs. The flowers are hermaphro-dite, actinomorphic, or zygomorphie, usually five mesons, have epinetalous stamens, an inferior gynæceum con-sisting of two to five inferior syncarpous carpels with numerous ovules; the fruit is a berry, drupe, or capsule. The leaves are opposite and usually exstipulate. Many species are wellexstipulate. Many species are well-known in Britain, e.g. Sambucus nigra, the elder; Viburuum opulus, the guelder-rose; Lonicera Periclymenum, the honeysuekle; and Symphoricarpus racemosus, the snowberry.

Caprifolium, see LONICERA.

Caprimulgidæ, the family of nightjars or goatsuckers, consists of cosmopolitan coraciiform birds with soft, owl-like plumage. The beak is short, with an enormous gape, the legs are short and weak, and the birds are night-flyers living in forests and feeding on moths. Caprimulgus europæus, the night-jar or fern-owl, is common in Britain, and Steatornis carinensis. the oil-bird or guarcharo, inhabits South America.

Caprino, a tn. of Italy, in the prov. of, and 10 m. W.N.W. from the tn. of, Bergamo, with manufacture of silk.

Pop. 2000.

Caprivi, Georg Leo, Graf von (1831-99), a soldier and statesman, chan-cellor of the German empire, one of a family sometimes known as Caprivi do Caprara. He fought in the camdo Caprara. At 1005, and in the paigns of 1864 and 1866, and in the

0th army

of the 10th army corps. He succeeded also ridged so that n larger amount of

Capricornus (tho Goat), a southern Bismarck in 1890 as chancellor and a number of negotiations with the English in S. Africa; these were, on the whole advantageous for

> Heligoland. C. passed the Army Blil in 1893 and retired in 1894 owing to disagreement with Count Eulenberg. Caproic Acid. or Hexoic

> (C.H.:O.), an ucid found in butter and cocoa-unt oil. It is obtained from the latter by saponification with caustic potash and distillation with dilute sulphuric acid. It is a ferror from product of in version in it is an orb liquid of might arms estimate and in a sweat.

Capromys, see MURIDÆ. Capros, a genus of boar-fishes, occurs in the Atlantic and Mediterranean in rather deep water. C. apa is not unlike the dory, but its mouth is more protractile, the body is covered with scales, and the dorsal spines lack long filaments. This species is about six inches long, a pale carmine colour above, and silverywhite beneath,

Capsella, a genus of N. Crueiferæ, ls known in Britain chiefly from C. bursa-pastoris, the shepherd's purse. This weed is an annual herb, cosmopolltan in distribution, and the flowers

fertilise themselves.

Capsicum, a genus of Solanaceæ, Is of economic importance on account of the pepper obtained from some of the species. The shell of the fruit is fleshy, coloured, and contains a pungent principle which also exists in great activity in its seed. Both the fruit and the seed of different species are therefore valuable as a condiment, and are used in seasoning food and in the preparation of pickles. C. annum, a weedy plant found wild in S. America and tho W. Indics, is greatly cultivated, and its fruit and that of C. longum are known to us as Chili or red peppers; dried and ground they form Cayenne pepper. C. fruticosum is an E. Indian shrub with a small fruit, which is called . goat-pepper.

Capstan (Fr. cabestan : Lat. capistrum, a halter; Sp. cabestrante), n machino used on a ship for manipulating weights, such as anchors. Cs. were ing weignes, such as anothers. Co. Moreoricinally made of wood, but are now generally made of iron. The axis of this appliance is vertical, differing in this respect from a windlass, which has a horizontal one. The barrel, h army has a horizontal onc. The barr himself round which the rope is coiled, the Loire larger at the top and bottom than in ad of the the centre, thus allowing the cable to mmander be drawn towards the centre. It is

rope may be wound round at one time. The drumhead, which is fixed above the barrel, has a number of square holes in it, and the C. bars project from these holes like the spokes of a wheel. At the base of the C. are placed the pawls, or short bars of iron, bolted to the deek by means of the pawl rim. These are to prevent any recoil of the rope. The usual method of working Cs. at the present time is by machinery rather than by Cs. are also used in railway goods yards for shunting trucks.

Capsula, a name applied in botany both to dry fruits formed from more than one earpel and to part of the sporogonium of the Bryophyta, or liverworts and mosses. In the latter ease the C., or theca, gives rise to spores, and thus is of great importance in the asexual generation of the plants. The capsular fruits are developed from ovaries of which the carpels are fused, and there may be one or more loculus; the dehiscence, or splitting open, is performed in various ways, and ought to be noted. If the splits run down the midrib of the carpels, e.g. lris, it is called loculicidal; if the fruit splits into its various earpels, e.g. rhododendron, seplicidal; if the outer wall breaks and the seeds remain in the middle, e.g. thorn-apple, septifragal. In the poppy the deliseence is porous, the seeds falling from holes at the top of the fruit, and in the pink the fruit dehisces by means of teeth, Captain, title found in almost all

languages to denote a chief of a small band of men (from Lat. caput, head chief). This name is especially applied to a grade officer in the army or navv.

Navy.—Strictly the commanding officer of a man-of-war or of a frigate carrying at least twenty eannon. the British navy and most others the C. is next in rank to the rear-admiral or commodore (about corresponding to an army colonel). This rank was

torees on war vessels were combined. In earlier times the 'master' had charge of the navigation, and the fighting was done by soldiers under their military officer. A C. in the royal navy is responsible for military government, navigation, and equipment of his ship, for the erew's discipline and health, and for neglect of duty in inferior officers. captain merely means full C. (from the time when Cs. of large vessels case, and at whose instance the dewere 'posted' on the permanent list of Cs., from among whom admirals were ehosen). A flag-captain commands the admiral's ahip. The C. of the ficet is a temporary official aplit is situated on the R. Volturno, and

pointed by the Admiralty to keep up the discipline of the fleet. He acts under a commander-in-chief as adjutant-general of the force, and wears the uniform of rear-admiral. The title is applied by courtesy to all who command ships at sea, whether they hold that rank or not. It is also given to the chief sailor of particular gangs of men in charge of a certain portion of the ship's company, as C. of the 'top,' forecastle,' hold,' gun,' etc.

Capua

Military.—Commanding officer of a company, troop, or battery, ranking between a major and a lieutenant. This grade is the third in the order of promotion. Formerly the title of an officer of high rank (like the modern eolonel), it is now restricted only to the head of a company or squadron.

of his troop. In a camp or barracks he supervises the cooking and messing The C. also keeps all of the men. accounts and reports of the company. He selects the first sergeant, and re-commends non-commissioned officers Tho title captain-general meant chlefeommander of the army or militia, and is still so used in Spain; also for the governor of Spanish provinces or colonies. The title (merely meaning 'head') is applied to the head boy of a school, and used similarly for the head of a football or cricket team.

Captain, a ship name in the British navy elosely bound up with Nelson's battles. But the best known 'C.' that of the disaster of Sept. 7, 18 1870. This vessel was a turret ironelad of 6950 tons built in 1869; it capsized in a violent storm off Finisterre and was lost. The first ship of this name was built in 1678, and the following are important battles in which a '.C. figured: Beachy Head, 1690; Barfleur, 1692; the battle off Capo Passaro, 1718; Minorea, 1756; Lonisberg, 1758; the Quebee expedition, 1759; Tonlon, 1793; Hotham's battle off Genoa, 1795; Hyèrea, 1795; at Corsica, 1796; Cape St. Vincent. Conenhagen, 1797; 1807:

Martinique, 1809.
Caption, in criminal practice, denotes: I. A heading to an indictment describing the court where the indictment is preferred and the proceedings leading up to the finding of the bill before the Grand Jury.
2. The heading to depositions (signed statements of evidence taken before a magistrate) stating the name of the

proach to Naples. Its fortifications are occupied mainly in missionary were constructed by Vauban, and labours.

Capulets and Montagues, the Engseat of an archbishop, and possesses a cathedral, and although of the latter has been reconstructed. some very ancient columns still re-with the Italian traditions of the main at the entrance. The church of middle ages; both families belonged the Annunziata is also noteworthy, to the Ghibelline party, and they are The modern C. was huilt in the 2th referred to by Dante (Purgatorio, century near to the site of the old city canto vi.). Already known in Engol C. was about 3 m. away from this liead them in Bease and Italia. C. was about 3 m. away from this, standing on the site of the modern Santa Maria di Capua. The old town was founded by the Etruscans, but in the 5th century B.C. it was conquered by the Samnites. After the battle of Cannæ, 216 B.C., it went over to Hannibal, but was again taken by ruins of its amphitheatre are among the oldest in Italy. Capuana, Luigi, Sicilian novelist.

at Mineo in Catania. As dramatic critic to the Nazione of Florence and critic to the Nazione of Florence and they are highly amusing and, in other periodicals he wrote the articles general, reflect the life of contem-which form the volumes called Studii porary Paris.

monkers which have a company, hairy tail, a well-developed thumb, and the species are not woolly. They caraballos Occidentales are a range of mountains in the island of range of mountains in the island of Luzon in the Philippines. They extend the property direction from the monkeys which have a completely refuse insects and caterpillars.

Capuchins, an order of friars in the a branch of the Franciscans. It was founded by Matteo di Bassi in 1529.

is a fortified town guarding the ap-inumerous, wear a brown habit, and

were enlarged in 1855. The soil round C. is noted for its fertility, producing lish names of two celebrated noble quantities of fruit. This town is the Veronese families, the Cappelletti and the Montecchi, famous for their fierce rivalry, their hereditary hatred and bitter fends. Their story is bound up ised them in Romeo and Julid.

Capus, Alfred, a French dramatist and novel-writer, born at Aix in 1858. His best known plays are: Brignold so Fille, Les Innocents (in collaboration with A. Allais), Rosine, La Veine, La Châtelaine, Le Beau Jeune Homme, L'Ange, L'Aventurier, and Les Deux the Romans four years later. It was Ecoles, his principal novels: Qui perd eventually destroyed by tribes of gagne, Faux départ. Monsieur reul barbarians who invaded Italy. The rire, and Années d'Arentures. C.'s works are pervaded by an optimistic fatalism; ther are popular because. while providing food for reflection. playwright poet, and critic born 1839 they are not overweighted with psychological and moral philosophy:

other perhodicals he volumes called Studit of Icticalum contemporanea, Libri c Teatro, etc. But C is at his best as a story-teller and novelist, and many of his novels and tales are known in translation in England. France, Germany, and Russia. Among his best works are: Glacinta. La Singe, Le Appassionala, Fausia Brazia, and to the content of the Councille and the story of the Councille the whole genus Cobus, or sapajous, or else specifically to the individual C. capucinus, the weeper. The name is said to have been given to be beard which is usually present in males, or because it has a black spot resembling a cowl on its head. The genus consists of monkeys which have a completely consists of the care are and left the digits are webbed on the because of the beard which is usually present in males, or because it has a black spot resembling a cowl of monkeys which have a completely consists of the care are reall, there is no tall, the hair tood, while the posterior are threstory of the digits are webbed in th

frequently kept in captivity, especi-Luzon in the Philippines. They exally by organ-trinders. Their diet is tend in a northerly direction from the chiefly veretable, but they do not Gulf of Lingayen to Mayraira Point. The highest peak is Mount Data, 7364 ft. The range as a whole is complex ft. Roman Catholic Church, originally in character, with a central ridge of spurs.

Carabidæ, or ground-beetles, form who, returning to the true habit of a family of coleopterous insects, St Francis, grew a beard, went bare many of which are large and adorned foot, and wore a pointed hood with brilliant metallic colours. Ther (capuche) from which the order takes are essentially terre-trial, and few of its name. In 1619 the C. became an the British species are capable of independent order. They are very flight About 13,000 distinct memand the larvæ are interesting, as they bon's Decline and Fall, i.; Meister's destroy many smaller insects and Dissertatio de Caracalla, 1792.

worms.

Fr. carabinier, a man who carries a Falconidæ, and common to America. carabine, or carbine), formerly the The bird is a powerful flyer and a name given to all regiments of light good walker. Its nest is sometimes skirmishers and harass the enemy. The name carabiniers was abolished in number. It feeds ou carrion and in the French army in 1870, and the also on young animals which it cap-6th Dragoon Guards in the English tures alive. army are now called distinctively, the Cs. The sole difference between this regiment and the rest of the cavalry is in the name.

Carabobo, a state of Venezuela. bounded on the N, by the Caribbeau Sea. The prin. port is Puerto Cabello, and Valencia is the chief tn. About 20 m. to the S.W. of the latter place while among its notable buildings are is the small village of C., where a the cathedral, university, governbattle took place in 1821. Coffee. Pop. sngar, and cacao are grown.

221.891.

Carabus, the typical genus of the stroyed 12,000 of the inhabitants. It family Carabidæ (a.r.), is well represent a very important commercial a metallic colonred beetle. Some centre. Pop. ahont \$0,000. species are vegetable feeders at times.

in 217 bnilt a tower there, the ruius of which still remain. Pop. 12,000. Caracal, a species of lynx found in Africa and the warmer parts of Asia. It is reddish-brown, with white under The ears terminate in a long eye. tuft of black hair, from which the animal derives its name, C.—black ear. It is savage and very powerful. The skin is made into coats by the Kaffirs.

Caracalla, Marcus Aurelius Antonilong Gallic hooded mantle. Born 188, he accompanied his father to Britain, 208-11. He murdered his brother, Geta, hecoming sole emperor. 212. Amongst the friends of Gcta who also perished was Papinian, the jurist. His reign was a series of cruelties and exhis ministers. His 'Constitutio Anall free inhabitants of the empire,

bers of the family are known to exist, arch of Septimius Severus. See Gio-

Caracara, Carancho, or Polyborus Carabineers, or Carbineers (from tharus, a carrion-hawk of the family Their function was to act as built in trees and sometimes on the ground, and the eggs are three or four

Caracas, a town, the cap. of Venczucla, in S. America. It lies in a vale of the Andes not far from its port, La Guaira. The soil is fertile. the water supply good, and the climate healthy, owing to its being about 3000 ft. above the sea-level. It has broad and well-built streets. ment buildings, museum, and library. C. has been several times shaken by earthquakes, and that of 1812 de-

Caracci, or Carracci, the name of but others eat carrion, and some will three celebrated Italian painters who attack living snails.

Caracal, a tn. of Roumania, and painting in Bologna in the 16th centhe cap. of Romanati. Its name is detury. Their idea of the uew school was rived from the Emperor Caracalla, who to combine the special excellences of all the masters of painting. A sonnet of which still remain. Pop. 12,000. written by Agostino makes clear their Caracal, a species of lynx found in ambition; they were to combine Africa and the warmer parts of Asia. Michelangelo's power, Titian's 'truth It is reddish-brown, with white under and nature,' Correggio's 'purity of parts, and two white spots near each style' and Raphael's symmetry. This movement was a reaction against the artificial mannerisms which had sprung up in the declining art of Italy; close observation of nature was to be a fundamental principle of

the eclectic painters.

Ludovico Caracci (b. 1555) was the nus Bassianus, son of Septimius actual founder of the school, but find-Severus, Emperor of Rome, A.D. 211- ing that he could not carry out his 217. 'Caracalla' was merely a nick- plan without help, he persuaded his name from his introduction of the two nephews, Agostino and Annibale. plan without help, he persuaded his two nephews, Agostino and Annibale, to join bim. The three kept up the academy together for three years.
Agostino, who had prepared himself
by study under Fontana and then in Parma and Rome, was much esteemed as an engraver as well as a painter. Annibale left Bologna at the invitatortions, and he chose bad men for tion of Cardinal Odoardo Farnese who commissioned him to decorate toniana 'extended full citizenship to his palace in Rome. Here Agostino joined him and assisted in the work all free innabitants of the empire, Joined aim and assisted in the work merely so that he might get money till the two brothers quarrelled and from the provinces. C. was murdered! finally separated. 'Susannah and the on a plundering expedition against! Two Elders,' in the National Gallery, the Parthians, at the instization of London, is a fine example of Londo-Macrinus, who succeeded him. He vico's work. Acostino's masterpiece is built at Rome the Thermæ Caracallæ his 'Communion of St. Jerome' or Antoninianæ, and the triumphal! (Bologna), while Annibale's work is

Caraccioli, the name of one of the most ancient noble Neapolitan families, the most distinguished members of which were Gianni, Marino,

Domenico, and Francesco.

Gianni Caraccioli (1480-1550) was prince of Melfi and grand seneschal of the kingdom of Naples. He was on the French side (except during a short Interval) after the conquest of Naples by Charles VIII. For his gallant defence of Luxemburg in 1543,

Francis I. rewarded him with the rank of marshal.

cardinal and statesman, created Duke

of Milan by Charles V.

Domenico Caraccioli (1715-89), statesman and economist; ambassador successively at Turin, Paris, and London. He died as viceroy of Sicily.

Caraccioli (1748-99), Francesco Neapolitan admiral. He served in the British navy, then had command of a Neapolitan squadron. In 1796 when Naples fell into the hands of the French he entered the service of the new government, but surrendered in 1799 and was hanged on Nelson's ship.

Caractacus, or Caratacus, Celtic hero, son of Cunobelinus, king of the Trinobantes and tribes of S.E. Britain, led the resistance to Roman invaders under Claudius, A.D. 48-51. After the Romans captured Camalo dunum be retreated, but kept up the struggle till defeated in battle, 51. Betrayed by the Queen of the Bri-gantes to the Romans, C. was sent to Rome, where he apparently died. Claudius rewarded his courage by granting him his llberty. The name survives in the Welsh Caradoe. See Tacitus, Annales, vii. xii.; Histories, iii.; Dio, lx.

Caradoc, Sir John Francis, first 1798. He subsequently served in Egypt (1801), Madras (1804-7), and Portugal (1808), and was appointed governor of Gibraltar (1809), and of the Cape (1811-12).

Caradoc, Sir John Hobart, second Baron Howden (1799-1873), a British statesman and dlplomatist, born at Dublin. He entered the diplomatic service at the age of twenty-five, and was wounded in the battle of Navarino three years later. Returning to

well represented by 'Silenus Gather- England, he was elected M.P. for ing Grapes' (National Gallery). | Dundalk in 1830: he did not remain well represented by Shehus Garlery.

Antonio Marziale Caracci is best known by his frieze in the palace of Monte Cavallo.

Dundalk in 1830: he did not remain long in parliament, and in 1834 was appointed military attaché with the Spanish army. In 1850 he was made minister plenipotentiary at Madrid.

Caradoc Formation, the upper of the two strata into which the Lower Silurian rocks are divided. The name is derived from 'Caer Caradoe' in Shropshire, which is an outcrop of the formation. The rocks are mainly sandstone, and are estimated to attain

a thickness of 2500 ft. Caradori Allan, Maria Caterina Rosalbina (1800-65), an Italian singer, born at Milan. After singing in France and Germany she came to London in nk of marshal. 1822, appearing in The Barber of Marino Caraccioli (1469-1538), a Scrille. She was very popular as a eoneert singer; she went to Venice and sang there for a season, returning to England, where she settled down in 1830. Among the notable festivals, etc., at which she appeared

> festival of 1836, and the Birmingham festival of 1865. She died at Surhlton. Caraffa, the name of a famous Neapolitan family which has produced many distinguished men, of whom

may be mentioned Westminster 1834,

the

Manchester

Oliviero (1406-1511). was made a cardinal by Pope Paul II. In 1467, and legate to Alfonso of Naples by Sixtus

IV. He was also made admiral of the fleet in 1472, and captured Smyrna and Satalia from the Turks.

Gioranni Pietro (1476-1559), became Pope Paul IV. In the year 1555. For his character and exploits see

Abbey in

papal history.

Carlo (1517-61), a nephew Giovanni Pietro, after serving under the Spaniards in the Netherlands, was made a cardinal by his uncle, who was then pope. As a result of the latter's undue favours to his nephews, war ensued with Philip of Spain, in which the C. family was victorious. When Pius IV. succeeded Paul IV. as Caradoc, Sir John Francis, first which the C. family was victorious. Baron Howden (1762-1839), a British general, son of John Cradock, Archishop of Dublin. He changed bis to bring about the death of Carlo in surname to C. in 1820. He sat in the 1561. Giovanni, a brother of Carlo in Fish Parliament (1785-1800); went shared to a lesser extent in both his out with his regiment to the W. Indies brother's good and bad fortune; he (1790 and 1793-95); took part in the was imprisoned by Pius IV., after suppression of the Irish Rebellion of having been appointed commander 1798. He subsequently served in of the panal forces by length and see brother's good and bad fortune; he was imprisoned by Pius IV., after having been appointed commander of the papal forces by land and sea, and was executed in 1561 on a charge of of '

> cousin of made a cardinal; his netlvities ran on literary lines, and among his labours may he mentioned the revision of the Bible. an exposition of the Canons of the Council of Trent, an edition of the Sepluagint, etc.

Antonio (d. 1693), a later member

of the family, distinguished himself in the service of Austria, and liecame a field-marshai. He was made governor of Hungary in 1685, but became an object of universal execration by his cruelty in the affair of the Tekeli conspiracy, and was recalled in 1687. Later he was largely instrumental in conquering Transylvania for Austria.

Caragana, an unimportant genus of Leguminosæ native to China and Central Asia, consisting of shrubs with papilionaceous, yellow flowers. C. gerardiana is sometimes known by

the name of Tartarian furze.

Caragiale, John (b. 1852), a celebrated Ronmauian author and playright, was born in the commune of Margineri. His works are very popular in Roumania, and include come-dies and novels. His comedies are of a satirical nature; the best known of them are Noptea furtunosa (A Stormy Night) and Scrissaren perduta (The Lost Letter): he has also written one drama, entitled Napasla (False Accusations). Among his novels the best is the one entitled Faclia de Pasce.

Caraglio. Giovanni Jacopo, Italian engraver, was born either at Verona or Parma, probably during the early part of the 16th century. His engravings—a large number of which are after Raphael—place him high in his profession. He also dovoted a great deal of his time to

the cutting of precious stones.

Caramania, or Karamania, a region comprising most of the eastern portion of the central table-jand of Asia Minor, lying mostly within the province of Konieh. It has obtained its name from the town Caraman, at the northern foot of Mt. Taurus.

Carambola, or Caramba, a species of Oxalidacere known technically as Averthoa Carambola. It is found in tropical Asia, and is cuitivated on account of its acid truit, which has a pleasant flavour and is about the size of an orange. The fruit is often called

the Coromandel gooseberry.

Caramel, the name which is given to the substance produced by the application of heat to loaf-sugar. When sngar is gradually heated over a slow fire, and stirred constantly, it loses water and other substances. At the temperature of 220° centigrade, the liquid which has been formed, trying to enrich himself by encourage becomes frothy; it is maintained for lost the printer. Being sentenced to some little time at this temperature, death he retired to Britain, and the and then poured out to cool. The Emperor Maximian was eventually solid thus elled to recogniso his command

brittie ma smell and .

Caran d'Ache, see Porré, MANUEL.

Carangamite, or Corangamite, a salt water lake in Victoria, S. Australia, with an area of 76 sq. m., and a circumference of 90 m. It possesses no ontlet, and is very shallow on the South.

Caranx, or Horse-mackerel, a seombriform or mackerel-like genus of fishes of which several species occur in Europe in temperate seas. trachurus, the scad or British horse-mackerei, is found off our coasts in vast shoals during the spring and summer months. It also inhabits the

Mediterranean,

Carapa, a genus of Meliaceæ, the order to which belong the trees yield ing mahogany and the falsely-named cedar-wood (Cedrela). The species are tropical and C. moluccensis inhabitmuddy swamps. C. procera and C quianensis both yield oil from the seeds.

Carapace, the name applied to the protective covering of many animals. particularly to the arched hony plate which is characteristic of the Chelonia (e.g. tortoise), and to the shield which protects the fore parts of the Crus-

lacer (e.g. crab).

Carapegua, an iniand tn. of Para-guay, situated 37 m. S.E. of Asuncion. It has two schools and modern public buildings. The surrounding country is fertile, cotton, tobacco, sugar-cane, etc., being grown. Pop. 13,000.
Carat, or Karat (Arabic ylrāt, pod:

Gk. repartor, fruit of the carob-tree), the name given to the seeds of the African tree of the genus Erythrina. These seeds, which were aim ost always Theseseeds, which were almost always of equal weights, were used first for weighing gold, and later for diamonds. The C., in gold, is one-twenty-fourth part of a certain weight (such as lh. or oz.) troy, as the gold is divided for the purpose of designating the amount of alloy mixed with the metal. Thus in twenty-two C. gold there are two-twenty-fourths alloy there are two-twenty-fourths alloy. With regard to diamonds the C. is a fixed weight.

Carate, a tn. of Italy, in the prov. of Milano, 15 m. N. of Milan. Pop. 6800. Carausius, Marcus Aurelius Vale-

rius, was horn during the 3rd century, in what is now known as Belgium. He was given a command in the Roman army, but was suspected of trying to enrich himself by encourag-

He was assassinated in 293.

avaca, a tn. of Spain in the is used for artificially colouring many prov. of Murela, situated on the C., a things, such as beer, vinegar, gravy, tributary of the R. Segura. It is noted etc. for its wine and brandy. EM- also manufactures of woollen goods, ather, paper soap, and oil. Marhle and there is a stalactite cavern at

Barquilla. Pop. 15,800.

Caravaggio, a tn. and com. of Lombardy, Italy, situated on the Gera d'Adda, in the prov. of Bergamo. It is 3 m. S.E. of Treviglio, 16 m. S. of Bergamo, and 24 m. N.E. of Milan. The painters Michael Angelo Merigi and Polidoro Caldara, both of whom were named Caravaggio, were born here. The church, L'Apparizione della Madonna, is famous for its paintings, and for the pilgrimages made thither.

Pop. 6600. Caravaggio, Michael Angelo Amerighi, or Morigi (1569-1609), au Italian painter, was born at Caravaggio. He was originally a mason, and prepared plaster for frescoes. He studied painting without any tuition, and his early works were bitterly attacked by his fellow artists. He was himself passionate and somewhat of a savage disposition, with an unconquerable determination, and these churaeteristles influenced his pictures. painted from nature as It really Is, defying all traditions and principles in art. Many of his scenes are of a violent nature, depicting quarrels and murders, and as he only allowed the light to penetrate through a very narrow opening into his models, the sliadows and high lights are very strong. There are numerous pictures of C. distributed over Europe, his masterpleee being 'The Entombment of Christ,' in the Vatican. Caravaggio, Polidoro Caldara (1495-

1543), Italian painter. He was first employed to carry mortar for the artists, but Raphael noticed his ability, and he was taught to paint. After the sack of Rome he fled to Naples and then to Messina, where he amassed a large fortune. He was robbed and murdered at Messina.
One of his best known pictures is
'Christ heaving the

Christ bearing the Cross.

Caravan and Caravan Trade (Persian karwan, from kara, people, army). The name in N. Africa and the E. for the large companies of merchants, pil-grims, or others travelling together for security, especially neross the Most Cs. are formed for deserts. purposes of trade, the merchants banding together to resist robbers! (Bedouins, Kurds, or Tartars), and to supply provisions and water. Such precautions are needed owing to absence of settled government, good roads and inns. From the very earliest times Cs. have been the chief means for transfer of merchandlse in Asia. them li Job, Isa

Is quarried in the hilly district near by, regions, as their powers of endurance are so great. Some Cs. have as many as 1000 camels and mules, but from 400 to 600 is a more usual number. These are harnessed in strings of abo ... h other in being gaily sing and bells. ado: procession, either for luck or guidance. In rocky, steep parts, mules and asses are employed for burdens. Heavy Cs. are those in which the camels have a load of 500 or 600 lbs., going about 18 to 20 m. a day; in light Cs. they only have half that weight, and go about 22 to 25 m. a day. The ordinary seasons for trade Cs. are spring, early summer, and later autumn; Friday being the favourite day for the start. Each day's march has two stages: from about 3 to 10 a.m., and again from 2 to 7 p.m. An average of 23 to 28 m. is accomplished each day. There are often halts of a few days, arranged (together with the exact line of route) by common consent, unless a guide or military officer has been engaged to settle all such points. The five stated daily prayers of the Moham-medans nro made to coincide as far ns possible with the necessary halts. Many of the company ride, if possible, on horseback. All are armed, and they sometimes have a military Tho leader of the trade C. Is escort. The leader of the trade C. Is called Karwan-Bashi, or Rais (chief). and is chosen by the merchants before starting. He acts as general manager. spokesman, and arbitrator; but in the matter of trafficking, each member of the C. acts independently. In Arabia Rikb, or Qofila, is the equivalent of C. Other forms are carouan and carranan. The word does not occur in English before the 16th century. The trade between Tripoli and the interior of Africa, between Darfur and Egypt. between Russia and China, is mainly carried on by Cs. The old Arab traderoutes led to Egypt, Syria, and Mesopotamia; and between the 8th and 11th centuries A.D. Arab appear to have gone regularly as far as the Baltic. Many old Arabic colns have been discovered in N.W. Europe and in the British Isles. The pligrim and in the British Isles. The pligrim bands to Meccah should properly be called Hajj, not Cs. The two chief start yearly, one from near Damascus (gathering up bands from Anatolia, Kurdistan, Mesopotamia, and Syria), and one from Cairo. Since 1908 a and one from Cairo. Since 1908 a rallway has been opened between Damascus and the Hejaz. Other smaller pilgrim Cs. are the N. African. Persian, Nubian, Indian, and Malay. them li and S. and E. Arabian. The leader of the Meccah Cs. is called Emir-el-Hadj largely used for transport of heavy (prince of the pilgrims). Tho Meccan goods, especially in arid, sandy C. from Damascus is under the protection of the Snitan of Turkey, and in dyeing. It is produced by the consists of thousands of pilgrims. The action of nitric acid on phenol and great Indian C. from Muscat has been discontinued long since. The Persians start from Bagdad; thus carrying on a a solution of picric acid hecomes a most important trade. An important permanent yellow dye; and with an trade-route starts from Timbuktu. dividing later into two roads, one to Tendruf and S.W. Morocco, one to Tafilet in S.E. Morocco. There are numerous other rontes, as from Trehizond to Tahriz; across the deserts of Gobi (Asia) and Sahara (Africa). Horses, yaks, and sheep are used as well as camels and mules in different parts; also dogs, reindeer, and llamas.
A fleet of Turkish or Russian ships (especially of merchant-vessels and their convoy) is termed a C. The name is also applied to a covered cart. now usually a house on wheels, as a gipsy C. See Burton The Pilgrimage to Al-Medinah and Meccah, 1855; Nachtigal, Sahara und Sudan, 1879. 89; Junker, Travels in Africa, 1896. Caravansary, a kind of unfurnished

inn where the caravans are put up in Eastern countries. They are large buildings with quadrangular spacious court, often containing well in the middle. There are public and private Cs., the former of which

are in some cases frec.

Caravellas, a seaport of Brazil, in the prov. of Espiritu Santo. It is a centre of the whale fishery of the Abrolhos islands. Pop. 5000.

Caraways, the ripe fruits of Carum Carui, or Carvi, a plant of the order Umbelliferte. The seeds, as they are vulgarly called, are the furrowed halves of the fruit, and their aromatic flavour makes them valuable to confectioners. They are also used as a carminative in medicine, liqueur is distilled from them, and the roots themselves are sometimes eaten in Europe,

Auguste (1813-74), a Carayon, Auguste (1813-74), a French author, horn at Sanmur. He joined the Society of Jesus, and from that time almost all his work was in connection with the society. He wrote many hooks and carried on researches concerning the Jesuits which made his name famous. He edited the History of the Jesuits of Poris, by Père Garaise, and died at Poitiers. Among his numerons works may be mentioned: Inedited Documents concerning the Company of Jesus, 1863-75; Bonishment of Jesuits from Louisiono, 1855; Historicol Notes on Jesuils and the Porlioment of

the Eighteenth Century, 1867, etc. Carballo, a vil. of Spain, in the prov. of Corunna, 22 m. S.W. of that tn. It is noted for its haths and mineral

springs. Pop. 13,555.
Carbazotic Acid (C₄H₂(NO₂)₂OH), or Picric Acid, a crystalline acid used the poroffins have the general formula

other organic substances. By using a mordant of alum or cream of tartar, indigo mordant various shades of green arc produced. See Pickic Acid. Carberry Hill, situated in Mid-lothian, Scotland, 7 m. S.E. of Edin-burgh. It is noted in history as the place where Mary Queen of Scots surrendered to the confederate nobles

in 1567. Carbides, compounds of carbon with other elements. Many were unknown until they were prepared by H. Moissan in the clectric furnace. The principal C. are those of calcium, manganese, iron, aluminium, chro-mium, harium, strontium, lithium, etc. Of these the most important commercially is calcium C., much in demand for the production of acctylene, which is generated by bringing water and calcium C. into contact (see ACETYLENE). Acctylene may be obtained in a similar way from lithium C. Other C., as aluminium and beryllium C., give methane, while manganese C. gives methane mixed with hydrogen. Silicon C. is a stable compound prepared by heating sand and coke in the electric arc; or account of its hardness it is used as a substitute for emery.

Carbine, or Carabine (from Fr. carabine; Med. Lat. calabra, an engine of war), fire-arm carried by horse-soldiers, usually attached to the saddle. It is constructed on the ordinary principle, but is shorter, smaller, and so

less effective.

Carbo, Caius Papirius, a Roman orator, a colleague of Tiherins Gracchus, and one of the chiefs of the Democratic party. He was suspected of the death of Scipio Æmilianns. On being made consul after the death of Caius Gracchus, he seemed to change his opinions in favour of the He was now execrated aristocracy. He was now execrated by the populace, and on heing accused hy Crassus, the tribnne, of peculation, he committed suicide in 119 B.C.

Carbo, Cnaius Papirius, a Roman general who was born about 130 B.C. He was one of the chiefs of the party of Marius, and was three times elected consul. When heaten by Pompey he field to Africa, but was stopped and killed in \$2 B.C. After his death Pompey had his head cut off and sent it to Sulla.

Carbohydrogens, more commonly called hydrocarbons, are compounds They are of carbon and hydrogen. most conveniently arranged in series, according to the relative numbers of atoms of carbon and hydrogen. Thus

formula CnH2n, as et hylone C,H4, etc.; the acelylene series have the general formula C_nH_{2n-2} , as acetylone, C_2H_2 , etc.; and there are other more complex series of which benzene, C.H., is

the best known member. Carbolic Acid, Phenol, or Hydroxybenzene (C.H.OH), a coal-tar product much used as an antiscotic. It was discovered in coal-tar by Runge in 1834, and has since been observed in the urine of certain animals. For commercial purposes, C. A. is pre-pared from the fraction of coal-tar distillate which comes over between 150° and 200° C. This distillate is treated with caustic soda which dissolves it out together with other substances. Water is then added which precipitates some of the hydrocarbons; the solution is nfterwards treated with sulphuric acid, when the phenols form an oily layer on top of the liquid. The layer is carefully removed and subjected to fractional distillation to separate the phenols. C. A. has a peculiar and characteristic odour, a hurning taste, is poisonous, and has notiseptic properties. It crystallises in colourless rhombic prisms which melt at 43° C, and have a holing-point of 182°; its specific gravity at the melting point is about 1.066. At ordinary temperatures it is mode-rately soluble in water, but it dissolves readily in alcohol, ether, glacial acetic acid, and glycerol. Upon exposure to light and air It deliquesces and assumes a red colour, but its other properties are apparently un-affected. Tests for C. A. are provided by the fact that it gives a violet colour with ferric chloride, and produces a white precipitate with hromine water. C. A. decomposes at a very high temperature, benzene, toluene, naphthalner, and other substances being formed. Though called an acid, it is neutral to the usual tests, but forms salts called carholates or phenates. The carbolates of the aikali metals may be prepared by dissolving the acid in a solution of alkali course with the evolution of alkali caustic with the exclusion of air. Phenol forms many substitution products, chlorine and promphenols and bromphenols. It is used commercially forming of articially for the manufacture of arti-ficial colouring matters, such as picric acid.

Therapeutics, etc.—C. A. is a general germieide, and is used to exterminate such fungoid growths as ringworm. When used in concentrated form it acts at first as a caustic, and niterproduces local anæsthesia, which is maintained for some hours. of C.

 CnH_{1n+1} , as methanc or marsh gas It is readily absorbed by the unCH₄, ethane C_2H_4 , etc.; the olefines broken skin, and may be used to treat or ethylene series have the general a collection of septic matter near the skin surface, but its absorption in this produce symptoms way may poisoning. A little cotton-wool soaked in C. A. often relieves toothache caused by decayed teeth. Internally, C. A. is taken in doses of 1 to 2 grains, and is useful in fermentation in the stomach, and as an intestinal antiseptic; it is occasionally used to stop

vomiting. Poisoning. - Phenol is a nerve poison, and, in concentrated form, a strong caustie. A quantity of 15 grains provides a very dangerous dosc. The effects of the caustic may at once be seen at the mouth, tongue, and throat. As a nerve poison, it produces paralysis of the respiratory centres, the breathing becomes shallow, a condition of collapse sets in, the patient is cold and clammy, and a state of coma precedes death. Diagnosis of poisoning by absorption is made by observing the condition of the urine which assumes a characteristic dark green colour. Treatment includes getting rid of the poison remaining in the stomach, administering an autidote and treating collapse. The removal of the poison must be carefully effected by means of the soft siphoo, as the use of the stomach-pump is inpossible on account of the prohably injured state of the stomach lining. The usual autidote is sodium sulphate introduced either by the mouth or by intravenous injection; the action probably is that the phenol is converted into sodium sulpho-carbolate, which is innocuous. Collapse should he treated by ndministering brandy, by placing hot water hottles at the extremities, and by generally preserving the warmth of the body by the use of hot blankets.

Carbon, in chemistry, a non-metallic element of widespread distribution. It occurs in nature in practically a pure state as diamond, and a somewhat less pure state as graphite or plumbago. In combination with oxygen, it occurs in the ntmosphere to a small extent, and in combination with metals, notably calcium, forms mnny important rocks. More important still, however, is its occur-rence in every form of animal and vegetable life, and so mnny different compounds of C. are met with in living tissues that the study of them is set apart as a special section of the science of chemistry under the title of organic chemistry, which might therefore be rendered chemistry of the C. compounds. C. as the chief consti-

properties of those substances con-link. Gas C. is a particularly hard sidered as fuel. Thus dry wood cou-land denso form obtained in the distance about 50 per cent of C; peat, tillation of coal in gas-works, apart or vegetable matter partly decread. contains about 58 per cent. ture be disregarded; brown anufacture of tains about 66 per cent., excluding rods for effective anufacture of tains about 66 per cent., excluding rods for effective are lights. There are moisture; bituminous coal contains various forms of charcoal obtained by about 84 per cent., and anthractive the slow combustion of animal or contains sometimes 95 per cent. of C, vegetable matter. Wood charcoal is the extent to which the pian burning wood in a has been allowed to part sascous constituents therefor

towards the centre, the charcoal-large deposits of these substances burner inspecting the heap from time exist throughout the world. Diamond to time, to see that the combustion is a crystalline form of C. It is usually is regulated by a proper adjustment found as octahedra or cubes, but of the seanty air-holes at the base many modifications exist. It was first Charcoal thus prepared is used as a discovered to be a form of C. by fuel and as a reducing agent in smelt-Lavoisier, who successive the substance in a

the products of

obtained in this way. It is a darkgrey or biack mineral with a metallic justre, and possesses a peculiarly greasy softness, so that it leaves n mark on anything with which it comes fairly forcibly in contact. Besides its use for the manufacture of writingpeneils, it is commercially important as a dry inbricant. Amorphous C. is obtained by burning many kinds of animal and vegetable tissuo in a limited supply of air. C. does not readily enter into chemical composition except at high temperatures, and it is only when exidation is rapid that burns to form C. dioxide. Lampblack is a form of C. prepared by burning tar, resin, or turpentine, and condensing the products of combustiou. The C. thus collected is a densely biack substance with impurities of hydrocarbons. It may be purified by heating in ciosed vesseis, when a fairly pure form is obtained. Its most impurities of the control of the cont Portant property is that it does not reflect light from any angle, and it is therefore in demand as a black pigment and as a constituent of printers'

of ejectricity.

of air. The old method

the charcoal burners of mines the percentage of C., and the the forests of Europe from time imheating power of a coal-like fuel and memorial, consists of collecting the extent of freedom from smoke, branches of suitable length and thickness of the coal-like fuel and memorial, consists of collecting the extent of freedom from smoke, branches of suitable length and likely length are closely ness into heaps, which are closely packed in and then covered over with The wood is ignited at the top and sides and allowed slowly to burn

""es. Animal charcoal, or bone is obtained by distilling boneretorts. It is usually very imdioxide only. The diamond owes its dioxide only. The diamond owes its pure, but possesses considerable decenomic value to its excessive hard-ress and great irrilliance. It is found its used for the purpose of decolouristic chiefly in S. Africa and S. America, ing raw sugar. Charcasi varies in its a mineral occurring in beds or plates a mongst the oider crystalline rocks, prepared and the mode of preparations.

It has the power of absorbing leing capable of absorbing such ties that they must be in n compression analogous to the

of one law material for the inquia state. It is to this property manufacture of writing-peneils is now that chareoul owes its value as a decdoriser, its atlinity for ammonia in particular being very marked. practice of eating charcoal in the form of charcoal biscuits is based on the expectation that gases causing pain and inconvenience in the stomach and intestines will be thus absorbed. Chnreoal is used as a reducing agent in the laboratory to separate a metai from its ore. Charcoal, as has been said, is not active at low temperatures but at high temperatures it combines readily with the oxygen in an oxide, giving off C. dioxide, while the metal is extracted pure. Before the wide-spread use of ead in iron-furnace, wood charcoal was commonly used to reduce the ore, and the process is still used where coal is scarce, as in Sweden. The compounds of C. nre numerous and important. With oxygen two compounds are formed. dioxide (CO2) is produced whenever C. is burned in excess of air or oxygen. It is a colourless gas, heavier than air, does not support combustion, and is soluble in water, the solution having an neid reaction (see Carronic Acid). sufficient excess of air, C. monoxide (CO) is produced, as in blast furnace operations, etc. It is a colourless, tasteless gas of a poisonous nature (see Carbonic Oxide). C. dioxide in association with water acts as a dibasic acid, which forms two series of salts with mctals, the carbonates and bicarbonates (see CARBONATES). C. is also capable of combining with metals directly in the electric furnace, giving rise to compounds called carbides (q.v.). It also combines directly with hydrogen when an electric arc is established between C. poles in an atmosphere of hydrogen. The resulting product is acetylene (q.v.). C. unites with fluorine to produce C. tetra-fluoride (Cf.). When heated in sulplur vapour, C. unites with sulplur vapour, phur to form carbon, bi- or di-sulphide (CS₂), a very volatile, colourless liquid, boiling at 46° C. and giving off an inflammable vapour. It has remarkable solvent powers, dissolving fats, india-rubber, sulphur, iodine, and phosphorus, which are otherwise difficult to obtain in solution. C. oxysulphide (COS) is a colourless, odourless, inflammable gas, produced when C. monoride and sulphur C. monoxide and sulphur vapour are passed through a tube at a moderate heat. Carbonyl chloride (COCl₂) is a colourless, heavy gas with a pungent smell, prepared by the action of sunlight on C. monoxide and chlorine. C. and hydrogen unite in many different proportions, giving rise to bodies which are collectively known as hydrocarbons, or carbohydrogens (q.v.). The many other com-pounds of C. with oxygen, hydrogen, and nitrogen which are associated with forms of living matter are usually classed as organic compounds: their number seems to be without limit, for not only are new compounds iso-lated day by day throught the efforts of chemical-research workers, hitherto unknown substances being synthesised in the laboratory.

See Alcohols, Aldehydes, Fars,
STARCH, SOAP, etc.
Carbonado (Sp. word meaning coal),

one of the forms of carbon. It is black in colour, is found in pieces as large as the ball of the thumb, and is sometimes used for the boring of rocks.

Carbonara, a tn. of Italy in the prov. of, and 4 in. from the tn. of,

Bari.

ri. Pop. 5000. Carbonari (charcoal burners), the members of an Italian political sceret society, which appears to have been formed in the first instance by Nea-politan republicans during the reign of Joachim (Murat). It had for its objects the expulsion of strangers from the throne of the country and the establishment of democracy. Its

When wood or coal is burnt without ritual was taken from the trade which gave it its name; thus a lodge of the society was a baracca, or hut, ordinary meeting was called a vendita, or pale; an important meeting an alta vendita. Mystic religious language was used to explain the aims of the society, clearing the wood of wolves was said to be their aim, alluding to Christ as a lamb torn by wolves. The objects of the society was at first only the expulsion of foreigners, but members of the higher degrees soon became democratic and There were

ociety, which of initiation. The C. rapidly increased in numbers, and hy 1820 included many of the most intelligent patriots in Italy. After the suppression of the Neapolitan and Piedmontese revolutions of 1821, Carbonarism was made high treason. Meanwhile similar societies had been fe

the Italian

Paris as alienated many of the Italians, who left and joined the Young Italy

movement.

Carbonates, salts of carbonic acid. Carbon dioxide dissolves in water to form a feebly acid solution, and therefore carbon dioxide is regarded as the fore carbon dioxide is regarded as the anhydrous (i.e. without water) form of carbonio acid, H₁CO₃, which, however, has never been isolated. The acid is dibasic, that is, it contains two atoms of replaceable hydrogen per molecule; when both atoms are replaced by a metal, the product is a C., and when one atom only is replaced, the product is an acid C., or bi-C. The monovalent alkali metals, such as sedium and notassium, yeld such as sodium and potassium, yield both C. and acid C. with the general formulæ MCO, and MHCO. The C. of sodium, potassium, and thallium are soluble in water, all the others are insoluble. Aluminium and chromium do not appear to yield C., and magnesium, bismuth, and copper yield basic C. If an acid bo added to a C., effervescence takes place with ovolu-tion of carhon dioxide, and most C. are decomposed by heat into earbon dioxide and the oxide of the metal.

Carbondale, a city of U.S.A. In the co. of Luzerne, Pennsylvania, situated on the Lackawanna R. Its principal importance lies in the fact that it is in the mldst of the anthraelte coal-field of the United States, and yields about 900,000 tons of coal yearly. Pop. 14,000.

Carbonear, a port of Nowfoundland, situated on Concoption Bay, 4 m. N. of Harbour Graec. Pop. 3703.

but

carbon dioxide CO₃, or C. A. gas. dioxide; this itanic may sometimes Carbon dioxide occurs in the atmobile observed near the top of a coal sphere to the extent of four volumes fire when there is incomplete comamount may be larger. It occurs also or when the carbon dioxide first in solution in river and sea-water, formed is turned into earbon monbeing carried down by rain or liberated oxide by passing over a heated mass from decomposing carbonates in the of coal. CO is a very posonous gas, soil. The gas is produced in large and is particularly dangerous in coal quantities in lime kilns, being formed by the decomposition of the chalk or in small quantities. limestone from which the chalk is made. Fermentation and putrefaction give rise to carbon dioxide, which may exert considerable pressure if the processes are carried out in closed vessels. In the laboratory, carbon dioxide is prepared by treating the carried out in the constraint of the constraint of the carried out in t i dilute hydrogenerally be

when onates yield the gas. C. A. is a coiourless gas about 1.5 as heavy as air, moderately solublo in water; it liquefies at 0°C. under a pressure of thirty-six atmospheres. It is used in the preparation of aerated waters, quantities being dissolved in water under pressure to produce the sparkling effect when the pressure is at length removed by releasing the stopper of the hottle. Carbon dioxide plays an important part in the making of bread, being generated in the thin limestones. The millstone urit dough by the use of yeast in order to separates the two great systems and obtain the porous condition wl

makes bread light and paiatable. the vital processes of animals plants, earbon dioxide is a necess factor, for it is oxidation of waste

occurring in the of material in the animal economy,

and it forms the raw material from which plants obtain the carbon necessary to build up their tissues. plants absorb carbon dioxide and give out oxygen, while animals breatise in air and expel air containing a larger proportion of carbon dioxide. Unless there is adequate ventilation in a room the increasing proportion of carbon dioxide interferes with the proper supply of oxygen to the lungs, and symptoms of suffication may ultimately appear.

Carbonic Oxide, or Carbon Monoxide (CO), a gas formed during combustion when the excess of oxygen is not sufficiently large. It is found In chimney gases, in the gases of blast furnaces, and in the vapours arising from volcanoes. It is prepared in the laboratory by the action of con-centrated sulphuric acid on exalle

10,000, though in towns the bustion in the lower part of the grate,

Carboniferous System, a series of stratified rocks which contains the great coal-bearing strata of economic The system includes much value. more than the coal measures, and, on the other hand, coal is found in strata unconnected with the system. The C. S. lies above the Devonian or Old Red Permian comprises in lower C. which iic above that the coal measures. carboniferous limestone may usually be divided into lower, middle, and upper rocks: the lower consists of limestone shales in the S. and centre of England, and calciferous sandstone in Scotland; the middle consists mainly of mountain ilmestone; and the upper of black shales with thin limestones. The milistone grit

> and coal scams: the principal coal scams; I thin limestones and

clays. In ickness is this is

because the land was at the C. period covered by shallow water and received a considerable amount of sediment from the land to the north, while the S. and E. of England lay under some depth of clear water. The thickness of all parts of the system therefore varies considerably with the locality. With reference to the eoal measures, these are found to a thickness of 8000 ft. in S. Wales, 6000 in Lancashire, 3000 in the midlands, Durham, and Northumberland, and about 2000 in Scotland. Ireland the system is represented eliefly by mountain limestone. Europe the C. rocks appear in Belgium, in Franco near Ste Etienne, in Westphalia, Saxony, and Bohemia. In Russia the system extends northacid, an equal volume of carbon ward as far as Spitzbergeu, and is dioxide also being produced. Carbon continued through Southern Siberia monoxide is a colourless, odourless into China. C. rocks are also known gas slightly lighter than air. It is in Australasia, N. Africa and S. slightly solublo in water and burns America, while in the United States with a pale blue flame to form carbon the system is widespread, attaining heds of greatest economic importance being in Pennsylvania and the surrounding districts. In the C. period as represented by rocks in the United Kingdom, the sedimentation is of two kinds: marine and continental able. The best specimens are found in or lagoonal. In the marine strata the Eastern Asia, notably Burma and fossils include crinoids, corals, foraminifera and brachiopods. Remains of many fish are found, including sharks similar to a large boil. It is caused by with piereing teeth and others with poorness of blood or similar cause, teeth adapted for crushing crusta- and accompanied by derangement of ceans, etc. In the continental strata the liver and kidneys. It appears are found six great groups of plants, generally on the shoulder, nape of the including the club mosses, horsetails, gigantic ferns, etc. Some of the tree ferns have been so well preserved that the minutest details of their structure can be studied, and some smaller ferns have heen identified with still living species. The vegeta-tion appears to have heen luxuriant and abundant, and there is evidence that the climate was, if not hot, at least mild and moist; though the beds of coal found in Arctic regions and in the great Antarctic plateau seem to show that the period was exceptionally favourable to vegetation. It bas been suggested that owing to continual volcanic disturbances, of which there is abundant evidence, the air was charged with a greater proportion of carbon dioxide than it has now, so that vegetation was proof the nclude fresh-w occacockroaches, locusts, bees, etc., and in the later C. rocks are found large numbers of early amphihinns. The economic importance of the C. system lies mainly in the coal and oil found in sulpbur, and sulphuric acid.

Carborundum, the commercial name for silicon carbide (SiC). It is manufactured by licating together in an electric furnace sand and cone. is a black crystalline solid, with hard-that town. Great quantumes of the sess greater than that of ruby. Its are grown, and there is a trade in great hardness makes it invaluable as fruits, grain, and silk.

Carcano, Giulio (1812-84), an Italian. His an electric furnace sand and coke. It

its greatest thickness in the East, the garnet being given that name by the ancients because of its appearance of a glowing coal in some varieties of light. Cut with concave surfaces it has a dark red colour, but owing to its relative softness it is not very valu-Eastern Asia, notably Burma and Ceylon, but it is also found in Brazil.

Carbuncle, an eruption of the skin neck, abdomen, and sometimes on the leg. It first appears as a hard red pateh, and, attacking the suhcutancous tissues, gives rise to great local pain and a general depression. The redness darkens into purple, and small eruptions of matter appear on the surface of the skin, from which the liquid oozes. Simultaneously the skin is killed and comes off as a hard patch. Treatment consists in strengthening the patient with light, easily digested food and a good wine, and stimulating the secretive organs so that the system assumes its normal working order. Poultices of various kinds are used, bathing with an untiseptic wash, and occasionally incision is resorted to, to relieve the place of fluid and prevent excessive loss of skin. Rest in bcd is also essential. The eruption is much more scrious than an ordinary boil, and medical advice should always he taken.

Carburet, a combination of carbon with another substance. See CAR-

BIDES. Carburettor, in earlier times meant an apparatus for charging gas or air mainly in the coal and oil found in with carbon by passing it through a Britain, Belgium, Russia, Japan, and liquid hydro-carbon, with the object America, but many other products of increasing its illuminating power are in continual demand. The C. The word is now used principally to limestone yields limestone for the describe the apparatus in oil engines manufacture of lime, hleaching and motor cars in which oil is changed powder, etc. The ironstone found in the sacciation with the coal, ores of zinc, lead, and antimony found in the limestone, are worked. The sand-insectione, are worked. The sand-insectione, and the various shales are specifically and terra-cotta clay often occur, and the various shales are spray C., which consists of a float-treated for the extraction of oil, feed chamber, and a mixing or spray with carbon by passing it through a occur, and the various shales are spray C., which consists of a float-treated for the extraction of oil, feed chamber, and a mixing or spray-For fuller details of ing chamber. mechanism, formulæ, etc., see MOTOR CARS and OIL ENGINES.

Carcagente, a tn. of Spaln In the prov. of Valencia, 25 m. S.S.W. of that town. Great quantities of rice

poet and novelist, born at Milan. His first work was Angiola Maria, puh-Carbuncle, thename given to alman - first work was Angiola Maria, puhdine, a variety of garnet, the precious lished in 1839, which marks the begin-

ning of the domestic novel in Italian the Incarnation, 1873; and A Short literature. He then, with most other Sermon on War, 1876.
Italian authors, took part in the fight Cardamine, a near relative to the for the freedom and unification of wallflower, is a genns of Crueifere Italy, and was obliged to go into which is widely distributed. The exile. Milan and was afterwards appointed senator. He wrote numerous works, best known among which are his

He also rendered great service to Italian literature by his translation of the Shakespearian plays (1874-82). His works were published in Milan in a complete edition after his death in 10 vols. (1892-6).

Carcar, a tn. near the E. coast, on the island of Cebu, belonging to the Philippines. Sugar is largely culti-

Philippines. Sugar is largely cultivated. Pop. 30,000.
Carcass (from Old Fr. carcois, a quiver), a shell or hollow ball of iron. filled with an extremely inflammable compound of saltpetre, sulphur, resin, etc., usually fired from a mor-tar. There were vents in the side through which the flame escaped.

Carcassone, the ancient Carcaso, cap of the dept. of Auge, France, on the R. Aude and the Canal du Midi. It has an old castle (11th century) and the cathedrai of St. Nazairo (11th century). It has important manufacutres of hosiery, linen, paper, soap, etc. Pop. 30,720.

Carcharodon, a genus of the Lamnide or mackerel shark family. Ιt includes the largest living shark, 36 ft. in length, which occurs from the Mediterranean to Australia. Technically it is known as C. rondelctii,

Carchemish, an ancient city on the W. bank of the Euphrates, N.E. of the modern Aleppo, was northern capital of the Hittites (2 Chron. xxxv. 20). It is identified with the ruined

Jerablus (Hierapolis). Carcinoma, see CANCER.

of the founders (1835) of the Catholie magnæ sive de regulis algebraicis Liber Apostolle Church, of whle of the founders (1835) of the Catholic magnæ size de regulis algebraicis Liber Apostolic Church, of whle tant works are: A Manua nury of Special Objects of Hope. 1843; The Confess Church, 1848; The Doctrine of the Eucharist. 1856 (2nd ed. 1876); The Unlawfulness of Marringe with a Deceased Wife's Sister, 1859; Notes on Revelutions, 1860; The Certainty of Final Judgment, 1864; The Fourproduced by pasting together several leaves of Figure 1948. The Fourproduced by pasting together several fold Ministry, 1871; The Doctrine of sheets of paper. Bristol board is a

exile. On his return he became in species are usually smooth herbs, 1859 professor at the academy of with stalked, entire, lobed, or pinnately cut leaves, and racemes of white or red flowers. The commonest British specimen is C. pratensis, which bears large lilae flowers and is called by a number of popular names. From its bitter taste it is called bittereress, from its appearance in the spring it is known as the cuckooflower, and from its covering the meadows as though linen were bleaching, lady-smock. The flowers yield a bitter, volatile oil of slight medicinal use, and the plants reproduce vegetatively to a great extent. C. bulbifera butbils, reproduces by axillary butbils, C. chenopodiifolia has two kinds of fruit, and C. impatiens has an explosive fruit.

Cardamom Hills, in the Madras Presidency, Travancore state, India; altitude 2000 to 4000 ft.

Cardamoms are furnished by several species of Zingiheraceæ from the genera Amomum and Elettaria. E. cardamomum is an Indian plant in which the rhizome produces leafless choots, and these bear the fruit which, when ripe, yield the spice C. In the species of Amomum the same thing occurs: A. Cardamomum is a native of Sumatra, A. angustifolium of Madagascar, the one producing small, the other large C. Grains of Paradise are the fruits of A. granum Paradisi,

and are an inferior quality of C. Cardan, Jerome (1501-76). Italian mathematician, was born at Pavia, and studied at the university of Padua, where he took his doctor of medleine degree. As the medical profession did popularly as the man-cater or great not prove lucrative enough for him, he succeeded in obtaining the chair of mathematics at Milan in 1534. afterwards continued the practice of medicine at Pavia and at Bologna till While there he studied as-1570. trology, and pretended to east the horoscope of Christ, for which he was imprisoned. After leaving Bologna Cardale, John Bate (1802-77), a ho went to Rome, where he died. He writer upon religious subjects and one wrote, among many works, Artis

to the satirical songs of the trouha- in the Crimea, during which cam-dours, dealing with the vices of the paign he led the famous charge of the nobility and the clergy. The sir- Light Brigade at Balaciay (1854) vientes of Cardenal are extremely Afterwards inspector-general of caforceful. He also supported the Alhi- valry (1955-60). genses against the crusade of the Cardigan and Cardigan Bay. C. is a Catholics. His songs are to be found seaport tn., a municipal hor, and the in Mahn's Gedichte der Troubadours co. tn. of Cardiganshire in S. Wales. (1856-73).

hy which the asophagus enters. As its name indicates, it is in close

proximity to the heart.

Cardiff (Welsh Caer Taff, or Cacrdydd, according to some authorities) C. has made greater and more rapid a very large coal and iron trade, heing connected with the S. Wales coalfield and the important districts of Aberdare and Merthyr Tydvil: it is in fact one of the largest ports in the world for exporting coal. It exports also large quantities of iron, manufactured ! iron, and steel goods, and carries on a considerable shiphuilding trade. The town itself is a very old one, and contains the ruins of a Norman Castle of the 11th century, in which Hohert, Duke of Normandy, the eldest son of William the Conqueror, remained for twenty-eight years. This castle has heen partially restored by its present owner, the Marquis of Bute. C. also played some part in the history of England during the time of the Civil There are several important huildings in town, among them a

finer kind of C. used for pen-and-ink, with the S. Wales coalfield and the drawings. Strawhoard is a coarse yellow board made from straw pulp.

Cardenal. Pierre (d. 1306), a Pro- Railways and the Glamorganshire vencal trouhadour, who flourished at the end of the 12th and heginning. S. Wales line of the Great-Western of the 13th centuries. He was canon of the tathedral of Puy de Velar, his native town, and his songs consist seventh Earl (1797-1868), horn at principally of sirvientes, a name given Hamhledon in Hampshire, and served to the satirical songs of the trouha-in the Crimea, during which cam-

It stands on the r. b. of the R. Teifi, Cardenas, a husy scaport on the about 5 m. inland from S. George's N. coast of Cuha, 75 m. E. of Havana, Channel. It contains the ruins of a in the prov. of Matanzas. It is one of castle supposed to have been built in in the prov. of Matanzas. It is one of the state supposed to have been both in the chief sugar exporting towns of the the 12th century. Pop. about 3500. Island. It has a good harhour and is well served by railways. Pop. 24,000. Channel stretching from Braich-y-Cardia, the name given to the opening in the npper part of the stomach Welsh counties, among them being continuous and the stretching from Braich-y-Pwll in the N. to Strumble Head in the S. It washes the shores of five ing in the npper part of the stomach Welsh counties, among them being

Cardiganshire.

Cardiganshire is a co. in S. Wales washed on the W. by Cardigan Bay. It extends from the month of the Dovey to the month of the Teifi, and is a seaport in. and the co. in. of has an area of about 690 sq. m. It is Glamorganshire. It stands on the l. h. hounded on the S. hy Pembroke and of the R. Taff, quite close to its mouth. Carnaryon, and on the E. by Breckhounded on the S. hy Pembroke and Carnaryon, and on the E. by Breck-nock, Radnor, and Montgomeryshire. C. has made greater and more rapid inces, radinor, and Montgomeryshre, progress than perhaps any other town in the United Kingdom, and this was posed of Cambrian and Silurian rocks, begun by the opening of its first dock and the interior is very mountainous. In 1839. The docks and basins, which its culminating point, Plinlimmon, helong to the Marquis of Bute, are 2400 ft. high, lies in the N.E. of the five in number, among them Bute county. The most important rivers Docks, and the Glamorganshire of Cardiganshire are the Teigh, the Canal Basin. C. is an extremely im- Rheidol, with the Rheidol Falls portant commerical centre, and has spanned by the Docil's Bridge, the avery large coal and iron trade being Vitwith the Account and the Tour Ystwith, the Aeron, and the Towy, though the Teifi is the only one of any real importance, and this does not belong exclusively to the county. The chief towns are Cardigan (the county town), Aherystwith and Aherayron—on the coast—and Tregaron and Lampeter in the valley of the Teifi. C. is a great agricultural county. producing barley and oats, while its chief industry is the rearing of live-stock. Gloves and flannels are among its chief manufs.; there are also lead, copper, and zinc mines. There are, scattered over the county, traces of early British camps, and also of Roman roads and military stations. besides inscribed stones. The ruins of Strata Florida Abbey, to the S.E. of Aberystwith, are also of interest. Most of the old customs of the county museum, public library, and various have died out, though that of bidding, technical schools. It is also the seat or sending for presents for betrothed of the University College of S. Wales people, still survives in some parts and Monmouthshire. C. is connected the principal railways are: The

Cambrian. which gives access to 1 Aberystwith, and the Manchester and Milford, which runs S. from Aberystwith to Pencader, and belongs now to the Great Western Railway. C. sends one member to parliament. Pop.

abont 60,000.

Cardinal (principal, from Lat. cardo, hinge), title of the highest dignitary. next to the pope, of the Church of Rome. The word is still used adjec-tivally, meaning pre-eminent. Originally of more general application, the title was later reserved especially for members of the Saered College at Rome (1568, by Pius V.). The pope is not obliged to consult them, but usually does, and they form his council or senate. They are all appointed by the pope alone. As early as the 4th century priests permanently ruling parish churches in Romo were called 'C. priests.' There were also 'C. deacons,' who administered the charities of a particular 'region' of the city, and 'C. bishops' in charge of the suburban sees of Rome (Porto and Santa Rufina, Sabina, Aibano, Frascati (Tusculum), Palestrina, Ostia, Frascati (Tuseulum), Palestrina, Oslia, and Velletri). Hence the title was always given to one on whom ecclesiastical affairs 'hinged,' but the three bodies did not form the one Sacred College till the 12th century. The Cs. are the chief members of the twentyone 'sacred congregations' (standing
ecclesiastical committees) of the
papai government, such as Holy
Office, Rites, Index, Studies, Propagation of the Faith. They meet in eonsistory, usually with the pope as president. They are most prominent on the pope's death, as they elect his successor, usually one of their own number, this being a special duty of the Sacred Coilege. Pope Sixtus V. in 1586 fixed the number of Cs. at seventy (six blshops, fifty priests, fourteen deacons). The numbers always varied greatly before, and may still do so, but the number of C. bishops remains six. The majority arc of Italian birth and live in Rome, except the 'priests.' Those of foreign birth are known as 'protectors.' The first C. hishop (of Ostia) is dcan of the Sacred College, and has the right of consecrating the pope, if he be not already a bishop at the time. The first C. deacon may proclaim and crown the new pope. The 'Camerlengo,' who rules the Church during a nand rock was the Church during a papal vacaney, is a C. Cs. have the title 'Most Eminent Prince' (Eminentissimo Signore). Among Englishentissimo Signore). Among English-speaking Cs. aro the archbishops of Sydney (New South Wales), Balti-more (U.S.A.), Westminster (Lon-den), and Armagh (Ireland). Cs. en-ley an income out of the papal treasury. They are often sent as

papal representatives on delicate missions, as 'legati a laterc.' wear a distinctive scarlet dress and red cap (biretta), given them by the pope. A red hat is also given them in a public consistory, but they do not wear it, and they receive the C.'s ring from the pope. Consult Thomassiu, Vetus et nova discipl; Phillips, Kirchenrecht, vi.; De Luca, Relatio euriæ romanæ; and Ency. Brit. Cardinal-bird, or Redbird, is the

popular name of species of Cardinalis of the passeriform Fringillidee, or finely Jamily. The birds are very sweet singers which inhabit N. and S. America, and are often kept in eaptivity. The general colour of the male is red with a bright red crest and

black forehead and throat.

Cardinal Points. COMPASS, See MARINERS

Cardinal Virtues. The C. V. recognised by the ancients were Justice. Prudence, Temperance, and Fortitude. and were so named because all other forms of virtue were regarded as hingeing or turning upon them (Lat. cardo, a hinge). Such classification can be traced back to the time of Socrates. In the Catholic Church these virtues were classified as moral virtues In contradistinction to the theological virtues, Faith, Hope, and

Charity.

Gardinal von Widdern, Georg, a German writer upon military sub-jeets, born at Wollstein in Posen jects, born at Wollstein in Posen in 1841, and took part in the wars against Austria (1866) and France (1870-1): he was afterwards appointed professor at the military academy at Nelsse In 1877, and subsequently at Metz in 1881, from which post he retired in 1890. His principal treats a bit Der Diele ward die Der works are: Der Rhein und die Rhein-feldzüge, 1869-70; Die Russischen Kavalleriedivisionen und die Armeeoperationen im Balkanfeldzug, 1877-8 (1878); Die Infanterie im Gefecht und im kleinen Kriege, 1888 (2nd ed.); Das Nachtgefecht im Feld und Festungskrieg, 1890 (2nd cd.); Das Gefecht an Flussübergang, 1891; Handbuch für Truppenführung, 1891 (4th cd.).

Carding, a process for combing the fibres of wool, cotton, etc. This is done to remove nll impurities, and to separate the imperfect from the perfect fibres, and so prepare the latter

for spinning.

Carditis, inflammation of the heart. The term is now used as a synonym carditis is inflammation of the peri- rals and 22 emblematic C. bouring parts.

of that place. In the vicinity, to the S.W. af the town, is a hill composed of rack salt, same 500 ft. high, and 3 m. in eireunference. It is worked like a mine, and the supply of salt obtained seems inexhaustible. Pop. 4000.

Cardaon, or Cynara cardunculus, a plant belonging to the Composite, elosely related to C. Scolymus, the articloke. The C. is edible, but it is the thick fleshy stalks and the ribs of the leaves which are eaten; they are cultivated and used much after the manner of celery, and come into season by the middle of November. Originally a native of Spain, it now flourisbes in the Pampas, having been introduced into South America for cultivation.

Cardross, a par. and vil. of Seotland In the eo. of Dumbartonshire, situated on the Firth of Ciyde, 3‡ m. N.W. of Dumbarton. Robert Bruce died in Cardross Castle In 1329. Tobias Smollett, the novelist (1721-71), was born at Dalquhurn House, and a monument 60 th blake the card of the car monument. 60 ft. high, which hears an inscription in Latin, written by Professor George Stewart and John Ramsay and corrected by Dr. Johnson, commemorates the fact. Pop.

of parish, 11,400.

Cards, Playing. The origin of P. C. is uncertain. It was loag held that they were invented to amuse France's insane king, Charles VI. A reference is found in the registers of the Chambre des Comptes in 1392 to an item ' for painting three packs of cards in gold and different colours,' hut na mention is made af invention. It has been asserted that they were introduced inta Spain by the Arahs, wha used them originally for purpases of divination, but this theory is too ill-sup-ported to receive credence. Leaving undecided the question of hav C. the right of parentage. The Venetian participation in the movement for the pack at the beginning of the 15th unification of Italy. In 1876, having

with general arterio-selerosis. Peri- eentury consisted of 78 C., 56 numecardium, the membranous sac en-veloping the heart. The causes are ing of 4 court C., king, queen, cheva-rheumatism. Bright's disease, and extension of inflammation from neigh-fram one upwards. The emblematic appear to have survived from still Cardana, a tn. of Spain in the prov. older times, when they were used for of Barcelona, and 45 m. N.W. by N. divination, and were subsequently combined with the numeral C. Sneb a pack was called a pack of tarots, probably from being tarote, or marked with diaganal crossings on the hack. The enablematie C. were of higher value than the others, and were called atulti, atouts, or trumps. These cmblematic C. however soon disappeared from use, and the pack was reduced to 52 by the suppression of one of the eaurt C. While there have always heen 4 suits of the numbered C., there has been considerable variation of the signs employed. The earliest signs, cups, money, clubs, and swords are still found in the ordinary Italian and Spanish packs. The Germans at first used hearts, bells, leaves, and acorns. In the 15th century the French adopted the present signs, spades, hearts, cluls, and diamonds. The spade is the German sign of the leaf, with the name spada of the corresponding Italian suit of swords. The club is an imitation of the German acorn, with the translated Italian name. The German heart has survived without change, while the bell has become altered to the diamond, originally of eireular shape, hut now square. C. have been subject to duty in England since the reign of James 1., when the duty was 5s. per gross of packs. has varied greatly from time to time, and in 1801 was 2s. 6d. per pack, but was gradually reduced until in 1862 it became 3d. per pack. The number of packs made is estimated at 20 millions per annum. See W. A. of packs and is commission. See W. A. Chatto's Facts and Speculations on the Origin and History of Playing Cards, 1848; T. Willshire's Descriptive Calalague of Playing and other cards. Cards in the British Museum, 1876; Taylor's History of Playing Cards, 1865. Also separate articles on the various games.

reached Europe, it appears equally Carducci, Giosuè (1836-1907), one hard to discover in which European country they first made their appear poets, born at Val di Castello near anee. They were knawn in Belgium Pietra Santa in Tuscany. He was the in 1379, while a Swiss monk, Johannes, ison of a physician, and began life as a in a manuscript dated 1377, naw in teacher. He spent a youth of severe the British Museum, states that the study, and was appointed in 1860 on game of C. came to Switzerland that incount of his vast eruditian to a provery year. It is usually held, however, fessorsbip of Italian literature at the game of C. came to switzerland that incount of his vast crudition to a provery year. It is usually held, however, fessorship at Italian literature at the that they were ariginally used in Italy, while Dr. Willshire (Catalague, held until his death, with the exception Playing Cards in the British tion at a short interval in 1867, when Museum, 1876) attributes to Venice he was suspended for too active a

in scattered form and afterwards published as Juvenilia, have no Intrinsie were the first great and Manzoni. His first great St. S. And Base Support. poems were written during the period 1860-70 following upon his appointment at Bologna, and were published under the title of Decennalia. 1860-70 following upon bis appoint under Ammanati. See Stirling, i.; ment at Bologna, and were published under the title of Decemnatia. Carduus, see Thisrle. They deal mostly with the political Cardwell, a eo. and tn. of Queensevents of the time and include his land, Australia. The tn. is situated on famous poem, the Hymn to Satan Rockingham Bay, 800 m. N.W. by N. (1862).

which become more and more comlatteries and works for tinning meat,
Duzong fishing is carried on. Pop.
plete after 1870, when C. adopted 4000.
Hugo as his model and gave freer expression to his political views. His
most esteemed poems are the unthing of the difference of the company o

inder whom and Zinccaro lie studied. Liverpool and educated at Winenester He went with his brother to Spain, and Oxford. He became a barrister in 1585, and after his death finished the gallery of the Pardo for Philip III., sir Robert Peel made him Secretary adopting the history of Achilles in to the Treasury (1845-46). In 1847 he stead of Charles V.'s life. He painted some fifty large pictures for the Carthusians of Paular; representing thusians of Paular; representing the repeal of the navigation laws, and seenes from the life of St. Bruno, and martyrdoms and miracles of the monks of that order. The Madrid Museum contains some of these. Other works were: 'Battles of the Chirty Years' War,' 'St. Anthony of Trade (1852-5), and under Charlet' St. Jerome' (unfinished). Duchy of Lancaster (1861), and while He wrote in Castilian, 1633, Dialogos He wrote in Castilian, 1633, Dialogos de las excelencias de la Pintura. See Viardot, 258; Madrazo, 366.

Carduchi, a race of people who formerly inhabited the mountainous districts of modern Kurdestan and probable ancestors of the Kurds.

Carducho, or Carducci, Bartolommeo

become a supporter of the Savoy There he became painter to Philip II. dynasty, he was made member of the Italian parliament. His poetry bears much in the Esenrial. He also began frescoes in the Pardo, finished by his brother (q.v.). His best work was The Descent from the Cross, in San

As architect and sculptor he studied

(1863), which eulogises the spirit of of Brishane. The harbour is capacious and easy of access. Gold and tin are found in the district, and there are extensive forests, from which cedar is exported. There are sauce factories and works for tinning meat.

from Horace, place him by their ele- (1828), and principal of St. Alban's quence, dignity, and impressiveness, Hall, Oxford (1831). His publications in the forefront of the great classical include an edition of Aristotle's writers. Though in form a classical include an edution of Aristotic's writers. Though in form a classical, Ethics, a students' edition of the C. has been placed by some among the Italian 'naturalist' poets, on account tary Annals of the Reformed Church of his revolutionary tendencies. His of England from 1346 to 1716, 1839; complete works were Issued in one History of Conferences, etc., connected vol. In 1901. See also Quarterly Review (Sept. 1902), article 'Italian Poets of To-day,'

Conducted Viscouries (1868-1838)

Poets of To-day,'
Carducei, Vincenzio (1568-1638),
painter, brother of Bartolommeo, 86
under whom and Zuccaro he studied. Liverpool and educated at Winehester
and Oxford. He became a barrister in
and Oxford. He became a barrister in
and Oxford. To Clitheroe in 1842. secretary for the colonies (1864-6), put an end to transportation. In Gladstone's ministry he was Secretary for War (1868-74), and after the Franco Prussian war he carried out in 1871-2 his great plan of re-organisation, abolishing the purchase of commissions, introducing the retirement of (1560-1608), an Italian painter, hetter officers and the short service system. known by his Spanish (first) name. A pupil of Zuccaro, he helped him to opposition from the Duke of Cambulat the service system. paint the great eupola at Florence, bridge, then commander in chief, who and went with him to Spain, 1585. feared that they would destroy the

Biddulph, 1904.

Care

Careening (from Lat. carina, a keel), the operation of laying a ship upon her side in order to repair her bottom and keel.

Carême, see QUADRAGESIMA. Carême, Marie Antoine (1784-1833), was a celebrated French chef, horn in Paris, who hecame cook to Talleyrand, the French plenipotentiary. He accompanied his employer to the congress of Vienna and played a considerable role there in preparing dinners for the various representa-tives. Subsequently he hecame chef to the English Prince Regent (afterwards George IV.) and to the empresses of Russia and Austria. was far-famed for the artistic nature of his dishes. He wrote Les Déjeuners de l'Empereur Nopoléon, La Cuisine Fronçoise, Le Maître d'Hôtel Francois, and other culinary works.

Carentan, a tn. in the dept. of Manche, arron. St. Lô, France, 25 m. W. of Bayeux. Pop. about 3000.

Carew, George (1557-1629), Earl of Totacs and Baron Carew of Clapton, studied at Oxford, and afterwards held a command in the Irish wars against the Earl of Desmond. In 1596 he led a successful expedition to Cadiz, and was afterwards appointed lordpresident of Munster, where he soon reduced the rehels to suhmission. He wrote an account of the Irish war in his Hibernia Pacata.

Carew, John Edward (1785-1868), Irish seulptor, horn at Waterford, hut

was M.P. for Surrey, 1529; and er to Charles V., 1529-30. He v of Exeter's conspiracy, 1539.

regimental espri-de-corps. He was in company with Lord Stanhope, lish soldier, travelled largely in Peel's literary executor, and edited France and Italy. He served Philibert Carew, Sir Peter (1514-75), an Eng-Peel's literary executor, and edited France and Italy. He served Philipert his memoirs (1856-7). Raised to the of Orange, 1525-30. Herry VIII. peerage in 1874 as Viscount Cardwell of Cardwell of Ellerbeck. See Lord Cardwell of chamber. C. served in the French (the Wor Office, hy General Sir R. War, 1544; was knighted, 1545; sheriff of Devonshire, 1546. He Care, or Carle Sunday, the Sunday helped to crush the Devonshire rising, preceding Palm Sunday, so-called 1549. He opposed Mary's marriage Care, or Carle Sunday, the Sunday in the Carle Sunday, so-called preceding Palm Sunday, so-called 1549. He opposed Mary's marriage from the practice of eating earlings, with Philip, was imprisoned for a i.e. peas roasted or fried in hutter on time, hut became constable of the this day.

Tower, 1572. See Life by Hooker of Carley MSS. (Vowell); Catalogue of Corew MSS., 1515-74.

Carew, Richard (1555 - 1620),studied at Christ Church, Oxford and became sheriff of Cornwall. His Surrey of Cornwall was held in high repute and has been reprinted

several times.

Carew, Thomas (e. 1598-1639), an English poet and courtler; educated at Oxford, afterwards leading a somewhat wandering life. For a time he travelled as secretary with his kinsman, Sir Dudley Carleton. He went on embassies to Venice, Turin, and to Propos (1610) and wee later attached

I. C. wrote nasque, 1634,

short poems and sonnets addressed to a 'Celia.' His poems show Donne's influence. He formed one of the poetic circle that centred round Ben Jonson, and was a friend of Sir John Suekling. For collected works see Haziltt, 1870; or Vincent, 1899. See Cibber, Lives of the Poets; Quarterly Review, August 1810; Retrospective Review, vl., 1822.

Carex, which belongs to the Cy-

wet and swampy grounds, in bogs, fens, and marshes, in the temperate and northern parts of the world; in Britain they are known as sedges. The flowers are dielinous, sometimes came to London in 1809, where he diecious, and are devoid of perianthdied. He produced many statues and leaves. The male flower consists of a busts and exhibited at the Royal simple spike, the three stamens being Academy from 1830 to 1848. His best situated in the axils of glumes; the statues are 'Whittington listening to Iemale flower consists of two or three the London Bells,' 'The Death of superior, united carpels. The leaves Nelson at Trafalgar, and the 'Model are stiff, with sharp or saw-like edges, Nelson at Trafaigar, and the Moure are built, whill blink put saw the consideration of a Gladiator.

Carew, Sir Nicholas, an English courtier and favourite of Henry VIII., leaves are used in hop-grounds for related to Anne Boleyn. He attended Henry in France, 1513, and was knighted before 1517, when he he came keeper of Greenwich Park. He became Master of the Horse, 1 me became Master of Horse, 1 me became Ma

frostbite. to Charles V., 1529-30. He was arenaria frequents sand-dunes; C. executed for his share in the Marquis dioica and C. scirpoidea are diceious specimens.

Carey, Henry (c. 1690-1743), English: studied music under Linnert, Roseingrave, and Geminiani; then taught and wrote musical dramas and ballad operas. C. was author of the libretto to The Dragon of Wantley (music by Lampe, 1737): he published six cantatas, 1732, and The Musical cantatas, 1732, and The Musical Century, 1737. His Poems on Several Occasions, 1729, were praised by Addison. His name is best remembered for the ballad Sally in Our Ally. but the present tune is not C.'s. C. was sald to be author and composer of God save the King, but the claim was unfounded. His granddaughter was mother of Kean, the tragedian

Carey, Henry Charles (1703-1879). an American conomist, born in Philadelphia and in his early life partner in his father's bookselling husiness. He soon became head of the largest publishing firm in the United States, but retired in 1835 to devote himsolf to the study of political economy. His chief works political economy. His chief works were: Principles of Political Economy (3 vols.), 1837-40: The Credit System of Frunce, Great Britain, and the United States, 1838: The Principles of Social Science, 1859. He was in theory a zealous free trader, but urged that a protective system was indispensable in the stage in which American industry then found itself. Carey, James (1845-83), born in Dublin, became a member of the Fenian conspiracy and one of the

originators of the Invincibles (1881). He took part in the murder of Lord Frederick Cavendish and Mr. Thomas Burke, permanent Under-Secretary for Ireland, on May 6, 1882, but tried to save himself by turning Queen's evidence. P -----

soon afterv the Cape, L Carey, M

American and father of Henry James C. Ho Latinus reaches the elevation of conducted the Freeman's Journal 4500 ft. The coast is very Irregular in Dublin, 1783, and in 1784 ominand deeply indented, being fringed with numerous Islands, chief among founde

ness. Hibernica.

Carey, Sir Robert (c. 1560-1639), was the youngest son of Lord Hunsdon and served Queen Elizabeth in various capacities, finally becoming English the warden of Border Marshes. He carried the news of her death straight from the bed-side to Edinburgh in the short space of sixty hours. He was created Earl of Monmouth by Charles I. in 1626, but the title dled with him. His Memoirs (ed. 1808) contain an interesting record of Border history.

Carey, William (1761-1834). Baptist humorous poet and musician, reputed missionary and Oriental scholar, born son of Savile, Marquis of Halifax. He at Paulerspung in Northants. In at Paulerspung in Northants. In 1787 he became minister first at Moulton in Northants, and after wards at Leleester. He was active in forming a Baptist missionary society, and was chosen in 1793 first Baptist missionary to India. He lahoured arduously to spread Christlanity and issued Bihles in forty different Oriental languages and dialects. also published grammars and diction-aries in Bengali, Mahratti, Sanskrit, and other languages, and edited the Râmayana (1836). He was from 1801 to 1830 Oriental professor at Fort William College, Calentta. See his Life by Geo. Smith (1885) (Everyman's Library).

Cargados, or Nazareth Islands, a group of islands situated in the Indian Ocean. They lie N.E. of Mauritius,

and are a dependency of that island. Cargill, Donald (1619-81), Scottish Covenanter, born at Rattray, Perth-shire, was made minister of Glasgow in 1655, but deprived of his living for opposing the Restoration (1660). He fought at Bothwell Bridge (1679), became a field preacher, and took part in the Sanguhar declaration (1680). Soon afterwards he solemnly excommunicated the king and his officials at Torwood, near Stirling, for which act a largo price was offered for his capture. He was soon caught and executed at Edinburgh, July

17, 1681. Cargo, see Bill. of Lading, and

FREIGHT. Carham, in the co. of Northumber-

land, England. It is situated on the R. Tweed and has a station on the North Eastern Railway. Pop. c. 1500. Caria, a maritime prov. of Asla bounded by Ionia and Lydia N., the Ægean Sea on the S., rdia on the E. The country is nountainous, its chief heights over 3000 ft., while Mt. which are Rhodes and Cos. Carians were originally a distinct nationality and maintained them-selves in the interior against the Greeks, but were afterwards subdued by the Persians. The country was

conquered by Alexander the Great, and became finally part of the Roman Empire. It now forms part of the Turkish Empire. Cariaco, a tn. of Venezuela in S. America. It lies to the E. of Cumana, and the Call of Carlaco. on the Gulf of Carlaco. Pop. c. 7000.

Cariama, or Dicholophus, a genus of S. American birds, resembles the secretary bird to a great extent, and Falconiformes. Internally, however, it is nearer to the Gruiformes, and the family Carianidæ is now usually classed under that tribe. C. cristata, the seriema or crested screamer, is a common species with long legs, short wings, short and slightly hooked beak, a well-developed crest, and loag tail. It is easily domesticated and will guard its owner's fowls when tamed. Its food consists of insects

and the smaller vertebrate animals. Caribbean Sea, part of the Atlantic Ocean that lies between the coasts of S. and Central America and the islands of Cuba, Haitl, and Porto Rico and the Leeward and Windward isles. It communicates with the Gulf of Mexico by the Yucatan Strait, and is divided into two deep basins, both in parts over 20,000 ft. deep, by a broad submariae bank less than 6000 ft. deep, lying between Jamaica and Honduras. The castern and larger basin has an area of 231,000 sq. m. The western basin is considerably smaller. The two basins aro united by a strait between Jamaica and Cuba and Haiti. The sea forms the turning point of the Gulf Stream.

Caribbee Islands, a name, chlefly of historical importance, sometimes applied to the whole of the W. Indles, strictly comprising only the chain of islands from Porto Rico to the Venczuelan coast of S. America. They are known also as Lesser Antilles, tho bulk falling into the two groups of Leeward and Windward Is. Some of the chlcf islands in the chain are St. Kitts, Nevis, Montscrat, Dominica, St. Lucia, St. Vincent (British); Guadeloupe, Martinique (French); Saha and St. Eustatius (Dutch).

Cariboo, a dist. of British Columbia extending on both banks of the Fraser R., near its source. It is important on account of its gold miaes.

Caribou, *see* Reindeer.

Caribs, or Caribbees, the name (first used by Columbus) of an aboriginal, predatory, warlike people of S. America, from whom the Cariban stock takes its name. They were They were expert scamen, and according to tho latest views, spread from S. America northwards, occupying the Lesser Antilles, near what is still called the Caribbean Sea, by conquest of the original Arawakaa tribes. They were distinguished for ferocity and cruelty. and made a bold resistance to the Spaaiards. C. is said to mean 'valiant man.' They were cannibals, the word 'cannibal' itself being a corruption of Columbus's 'caribal' (derived from their tribal name), perhaps referring to the 'canine' voracity of the C. To put an ond to the constant disturb-

is often placed near it among the ances caused by the C., the English government in 1796 deported thein nearly all from Dominica and St. Vincent to Ruatan Island off Hon-duras. They numbered about 5000, and have since spread over the neighbouring mainland, the majority being now settled in Honduras and Nicaragua. Among the chief Cariban tribes are the Palmellas in Brazil; Bakaīris and Nabuguas on the Upper Xingu; Apotos and Waywai in Braziliaa Guiana; Roncouvennes and Galibis in French Guiana; Mueusi in British Guiana; Kalinas in Dutch Guiana; Makirifares and Motilones in Vene-They are usually slight in zuela. figure, hut strong and well-formed, though lacking muscle. They were described at the discovery of the new world, as 'the strongest, handsomest, and most intelligeat' natives of that part. They are reddish-brown in colour, with long, thick, black hair, and Mongoloid features. They driak quantities of paiwari (liquor made from the cassava plant). Through admixture with negroes some are known as Black C. The C. were partly an agricultural people, and made good pottery. The modern tribes are far more people; then the excitate far mana nac They

ing, b

monial, and they practise the couvade. The favourite weapon is a battle-axe of polished stone. The kinship of the various C. communities from Central America to Central Brazil is entirely liguistic.

Carlea, the typical genus of the order Carleaceæ, which grows in tropical America. The best-known species is C. Papaya, the papaw, a tree which has many uses. It is eaten ripe, boiled as a vegetable, the milky juice is a vermifuge. The juice of the plant forms a cosmetic, the leaves are used in washing instead of soap, and animals fed on the plant become tender. C. candamarcensis has ediblo

Caricature (Ital. caricatura), a representation of some person or group in such a manner as to excite ridicule or contempt. The word in our language is comparatively modern, having been first used by Sir Thomas Browne in his Christian Morals (part iil.), but the history of C. takes us back to very early ares, certainly to Greek, possibly early Egyptian times. In Greece and Rome, however, ple-torial as compared with literary satire held but a small place; Greek Cs. are only known to us through references in Aristophanes and elsewhere, but many grotesque drawings have been uncovered in Pompell and Hereulaneum, and Pliay mentions

Both literary and artistic C. have always based thomsolves more or less on actual facts and features. Even physical deformity, which ought to excite pity, has often been seizod upon as a subject for derision, and as religious wars have notoriously been among the most cruel, so religious Cs., as in the pagan mockeries of the early Christians, and the broadsheets issued during the Reformation, have been among the most venomous and insulting. But as both art and manners improved, it was discovered that the rapier was more effective than the bludgeon, and though brutal and indecent draughtmanship is not oven yet extinet, the greater part of our present day Cs. aro as far removed from ancient grossness as the essays of Newman or Matthew Arnold are from the abusive rhetoric of mediæval controversy. Artists in the middle ages loved the grotesque; witness the monsters of the illuminated MSS. and the gargeyles of the eathodrals. the 10th and 11th conturies the story of Reynard the Fox, among others, was much used by monkish writers for satirical and didactic purposes; after passing through many varia-tions the story as now generally known was printed at Lubeck in 1498, with illustrations to match the text. Caxton had already published an earlier version in English. A generation later Holbein produced his won-derful 'Moralities,' including the famous 'Danco of Death.' These, though hardly what we should eall Cs. were preparing the way for the development of that art in and following centuries. and Holland were at first mo but Jacques Callot of Lorraine (1592-| diseased bono becomes soft and red, 1635) struck out a new line, which was freely copied. As pictorial satiro had played so great a part in religious disputes, it was now employed also in disputes, at was now employed also in politics, as for example in England during the great Civil War, and in Holland, where it was aimod against England and France in turn, and especially at Louis XIV. During the 18th century C. in England reached its height in the works of Hogarth, whose 'Mariage à la Modo 'and similar engravings have never boon exlar engravings have never been excelled. In politics, the South Sea Bubble and the abuses of Walpole's administration invited and received

satire, and with the outbreak of the

furious cartoonist's war, Gillray and Rowlandson being matched against

French rivals of equal virulonce if less

power. Champfleury's Histoire de la Caricature, gives an idea of the sav-

also

French Rovolution came

painters skilled in burlesque portrai- in France. During the 19th century these grossnesses have been quite abolished in England and largely so George Cruikshank comes hetween the school of Gillray and the later one of Punch with a style all his own, and since his time our country has been exceedingly rich both in caricaturists proper and in draughtsmen whose work is sometimes difficult to classify (e.g. the famous ear-'Dropping the Pilot.'). Leecb, Tenniel, Doylc. H. K. Browne, Keene, Dn Maurier, Linloy Sambourno, E. T. Reed, Harry Furniss, and others, have given us much of their best work in Punch, which journal stands without a rival in England, though it has had many competitors, some of them, such as Fun, Judy, and Moonshine, making excellent fights for recognition. The charming sketches of Randolph Caldecott (1846-86), the fun and pathos of Phil May, and the brilllant work of artists fortunately still among us, such as 'F.C.G.'. Max among us, such as 'F.C.G.', Max Beerbohm, and othors, have helped to place English humorous art in the very first rank. France, Germany and America also have and America also have produced much fine work, in every case strongly

marked by unti Caries, the body. It resombles the uleeration of the softer tissues, but by reason of the constitution of the parts attacked, it is of a more serious nature, and the inorganic constitution of the tissues renders them less casy to replace, and therefore to heal. is generally eaused by an injury, but also accompanies serofula, syphilis,

and particles come off, while the ul-ceration of the bone itself comes to the surface and forms a fistula. The matter of the ulceration must be ronioved, and the part treated anti-septically when the bone may heal, or the result may be obtained by gonging or excision. A course of calclum phosphate promotes formation of new bone. C., or ehronic decay of the teeth, gives rise to toothaelie.

Carigara, a tn. on the coast of Leyte, Philippine Is. It is a port of call for steamers coming from Manila. Pop. about 16,500.

Carignan, a French tn. in the dept. Ardennes, on the R. Chlers. Its original name was Yvois. It is a very old town, and its industry is supplied by

the iron mines. Pop. about 2000 Carignano, on It. tn. situated S. of Turin (Piedmont). The name of this age, often disgusting, work of that era town is that of a branch of the Savoy

family-Savoy-Carignan. Pop. about | Klagenfurt is the capital and centre 4500.

Carijos, one of the original tribes When the Portuguese Brazit. colonised Brazil they received them and were not hostile in any way. Later on, bowever, they rose when attacked, and this led to their almost total extermination.

Carillon, see Bell.

Carimata Islands, a group of more than 100 islands situated W. Borneo. They are separated from the island of Billiton by the strait of the same name. The largest one of this group, Grand Carimata, is woody and mountainous. Pop. about 500.

Carina, or Keel, the term applied to two of the petals of a papilionaceous flower, e.g. pea or laburnum, which are fused together and form a boat-

shaped structure.

Carinaria, a genus of gastropod molluse, is to be found in tropical seas and the Mediterranean. shell is shining in appearance, small and conical in shape, the foot is long and the visceral sac is small. mediterranea is a common species.

Carinatæ, the larger of the two groups of living birds, the other being the Ratilæ, e.g. emeus and ostriches. It receives its name from the fact that the sternum is always keeled except in flightless forms, e.g. dodos, but barely all the species have wellformed wings capable of flight.

Carini, a tn. of Sicily In the prov. of Palermo. It is situated in a hilly country and has a Gothle eastle. Pop. about 13,000.

Carinthia (Ger. Kärnten), crown-land and duchy of Austria-Hungary, E. of Tyrol, of area about 4000 sq. m. The district is very mountainous, bounded on the N. by the Hohe Tanern and Styrian Alps (with Gross Glockner, Hochnarr, Ankogel, Hainer Eck, Königsstuhl, etc., ranging from about 8000 to 12,000 ft.); on the S. by the Carnic Alps and Karawankas (Dobratseb or Villacher Alp, Och Obir, Petzen, etc., ranging from about 7000 to 9000 ft.). The R. Drave flows through the province from E. to W., its valley separating the two mountain chains. There are many beautiful (Wörther, Millstätter, lakes Weissen), and valuable mineral Among the many passes across the mountains are the Pontebba or Pontafel Pass, through which goes one of the chief Alpino roads from Italy to Austria (with the fortress ;h

of the railway lines. Pop. about 24,000. Only a small part of the province is adapted for tillage; the majority of productive land having forests. Rye, wheat, oats, buckwheat, and clover-hay are the chief crops. Valuable herses and livestock are reared. The mineral resources are very great. C. is one of the chief leadproducers for Europe. Iron, coal, and zinc are also found. Bessemer steel rails, wire, bar-iron, and wire nails are manufactured. Machinery, textiles, wood-pulp, leather goods, fire-arms, and coment are exported. The local diet has thirty-seven members, including the Archbishop of Gurk. C. sends ten deputies to the Reichsrat at Vienna. For administrative purposes there are seven districts and the city of Klagenfurt. About 70 per cent. are Germans, 30 per cent. Slovenes or Slavs. The majority are Roman Catholics. Many towns in C. are becoming popular resorts. C. was part of Noricum under the Roman empire. The Carni were overwhelmed by Slavs (c. 6th century); Charlemagne annexed it to the Frankish empire; then for 500 years it was ruled by various dukes, finally coming under archdukes of Austria, 1225 Austria, 1335. Since then, except when held by the French, 1809-13, it has been directly subject to Austria. Pop. about 370,000. Sec Ankershofen, Geschichte des Herzoglums Kärnten, Kärnten und Krain, 1891;

Alsehker, Geschichte Kärntens, 1885. Carinus, Marcus Aurelius, Roman emperor c. A.D. 283-5, son of Carus, and governor of Western Empire under him. He fought against German tribes, then returned to Rome and luxury. On the death of Numerianus, C.'s brother, Dioeletlan, was proclaimed emperor in Mœsia. Most accounts ngree that C. won a battle against Dioelctian on the Margus, but was afterwards killed by his own soldiers. See Vopiscus, Carinus; Pauly-Wissowa, Realencyclopädie, ii.

Caripuna, the name of a tribe of savages occupying parts of S. America. They are found in Brazil, on the bank

of the Madeira R.

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Carisbrooke, a vil. in the Isle of Wight in the co. of Hampshire, England. It lies to the S.W. of Newport, and was once the cap. of the island. Carisbrooke Castle, partly in ruins, Is the distinguishing feature of the tn. It dates back to very early times, and was the scene of the imprisonment of Charles I. for a time. Pop. about 2000.

Carissa, a genus of Apocynacore, nsists of thorny shrubs which consists Gonrish in Asia, Australia, and Africa.

C. Carandas, Christ's thorn, or the
Carandas-tree, is used for feneing purposes in India, and the odlblo fruit is

the Loibl, Seeberg, and Arlscharte.

xylopicron, the

native of Madagascar.

Carissimi, Giacomo (c. 1604-74), an It. musician and one of the greatest composers of his time. He was chapel master at the church of St. Apolli-naris, and is especially famons for his reform of the recitative, and for being practically the inventor of the cantata. His music is distinguished by ledge schools and by a clergyman its pure style and its exquisite melodies, while among his followers occupations C. adopted the literary may be numbered such men as one, and his first book. Trails and Bassani and Alessandro Scarlatti. He Stories of the Irish Peasants, appeared has written a number of oratorios; in 1830. Among his other works are: and cantatas, the most famous among the latter being The Sacrifice of Jephthah.

Carit Etlar, pen-name of the Danish dramatist and novelist, Johan Karl Christian Brosböll (1816-1900). He was born at Fredericia, and studied painting for some time at partiting for some time at the academy of Copenhagen. He then took up literature, and published Slägtskabet in 1839. His works include historical romances, tales of Danish life, and dramas. His Skrifter (colleeted works) appeared at Copenhagen in 1859-68, and a fresh collection was published from 1873-9. Among individual works may be named Litets Conflicter, 1844; Skyggbilleder, Nordenskjold, 1879; Arabere og Kabyler, 1868.

Carlaverock, in the co. of Dnm.

friesshire in Scotland, stands on the solway Firth, about 6 m. from Dumfries. It is famous for its ruined castle, the seat of the Maxwells. Pop. about

1000.

Carlen, Smith Emilie Flygare (1807-92), a Swedish writer. She was born at Stremstad, and was the daughter of Rutzer Smith, a trader. In 1827 she married Dr. Flygare. She was left a widow after about six or seven years, and she then began her literary career, writing Waldemar Klein in 1835. Shortly after this she married Johan Gabriel Carlén, a resident of Stockholm, and for the next ten or twelve years she wrote many novels. In 1852, however, her son died, and she was so grief-stricken that she wrote no more until 1859. In 1860 she founded a home for poor fishermen in memory of her father, and an institution for poor students in memory of her son. Among her works are: Gustat Lindorm, 1839; Rosen pa Tistelom Berättelse frau Fosterbroderne, jöroman, 1848

tn. about 19 This tn. was m. from Syracuse. founded by the Emperor Charles V. Pop. about 8000.

Carleton, Will (b. 1845), American the roo poet, born at Hudson (Michigan), practice.

pickled, preserved, or eaten raw. C. After taking his degree at Hillsdale bitter-wood, is a College he travelled in Canada and the United States lecturing there. and afterwards also in Europe. Among his works are: Farm Ballads, 1873; City Legends, 1874; The Dead Student, 1879; City Festivals, 1892. Carleton, William (1794-1869), 1rish

novelist, the son of a farmer. He himself was educated at various

Fardorougha, the Miser, 1837; The Black Prophet, 1847. Carli (or Carli-Rubbi), Giovanni Rinaldo, Count (1720-95), Italian political economist and antiquary. Senate of Venice made him professor of astronomy and navigation, 1744-50. President of Council of Commerce in Milan, 1753. He persuaded Joseph II. to abolish the Inquisition. His most celebrated work is Delle monete e dell' instituzione delle zecche d'Italia, 1754. 60. on the coins of Italy. Others are: L' Uomo Libero. 1772; Lettere Ameri-

cane, c. 1780; Delle antichità italiche 1788-91.

Carlile, Richard (1790-1843), son of a sboemaker, born in Devonshire. He was educated at the village school of Ashburton, and after having endured many hardships during his apprenticeship to a tinman, he became a journeyman tinman in London. After reading books on the subject he became an extreme Radical, and underwent several terms of imprisonment for publishing some of these books which had been suppressed, and also for writing his Political Litany, a work of the same kind. He was set free in 1825, and became editor of the Gorgon, a political paper. In spite of this, however, C. did a great deal for the freedom of the press.

Carlile, Rev. Wilson (b. 1847), was deather the control of the press.

educated in London. He was ordained in 1880, and two years later founded the Church Army, of which he is the chief secretary. He is also a prebendary of St. Paul's Cathedral.

Carlina, a genns of Compositæ, spreads over Europe to the middle of Asia. C. rulyaris, the earline thistle, is a native of Britain; it has the curious habit of opening widely in dry weather, and in wet seasons the white inner leaves of the surrounding bracts cover over the flower-heads, leaving the rickly outer bracts exposed to the rin. C. acaulis, the weather-thistle, is abundant in the Alps and bas the same characteristic action. The purgative obtained from the roots is used in veterinary

Carling Carling, Hon. Sir John, K.C.M.G. resident consular agent. Pop. about in 1893 (b. 1828), statesman and 50,000. See Creighton, Carlisle, 1888; capitalist, born in London, Middlesex, Freeman, 'Carlisle in Eng. Hist.,' in Ontario. His father, Thomas C., was a native of Yorkshire, and left Eng. Ferguson, Carlisle Diocesan History, a native of Yorkshire, and left England for Canada in 1818. In 1849 Sir 1899. John C. married Hannah, daughter Carlisle, a tn. in the state of Penn-of the late Henry Dalton. In 1862 sylvania in the U.S.A. It is situated he held the post of Receiver General of Canada, and later became commissioner of Agriculture and Public Works. He was afterwards Minister of Agriculture, and in 1882 Post-master-General. He also founded the

Agricultural College in Ontario. Carlingford, an Irish tn. in the co. of Lontb in the prov. of Leinster. 1t stands on the sea coast on the bay, or lough, of the same name, and is noted for its oyster fisheries.

Pop. about 600.

Carlingford Lough, a part of the Irish Sea between eo. Louth and eo. Down, and is navigable for large

vessels.

Carlisle (Lat. Luguvallum, Brit. Caer Luel), eity and parl. bor. of England, cap. of Cumberland, about 50 m. from Newcastle, 7 m. from Solway Firth. It stands on an eminence nearly surrounded by the rivers Eden, Caldew, and Petteril. Its port is Silloth, and It is a most important Silloth, and it is a most important railway centre. London and North-Western, Midland, North-Eastern, Caledonian, North Britisb, Glasgow

Danes, 875, and restored by William Rufns, who built the castle, 1092. Its ruins are now used as a barracks and armoury. Rufus also began fortifications, but they were not finished till the 12th century. The bishop's see was founded by Henry 1., comprising counties of Cumberland, Westmoreland, and detached parts of Lancasbire N. of Morecambe Bay. The fine medieval cathedral, huilt between 1092 and 1419. is partially preserved, notably the magnificent E. window in the choir. in the choir. It has a monument to Archdeaeon Paley. Edward I. held a parliament at C., and assembled his forces there for invading Scotland, 1298. During the civil war it sided with Charles, but was finally captured by Parliamentarians, after a hard siege, 1647; 1745 lt surrendered to the Pretender, afterwards being taken and punished by the Duke of Cumberland. The chief streets lead from the market-place. It has many fine public buildings and institutions. It sends one member to parliament. Its chief industries are manufeof cottons, fabrics, hats. also dyeworks, Ironworks, and

in the co. of Cumberland about 19 m. from Harrisburgh. Dickinson College was founded here in 1783, and there is also in the town an industrial training school. Pop. about 9600.

Carlisle, Sir Anthony (1768-1840), eminent English surgeon, first ap-prenticed to practitioners in York and Durham, then studied under John and William Hunter in London. Member of College of Surgeons, and surgeon extraordinary to the prince-regent (George IV.); 1793-1840 sur-geon to Westminster Hospital; F.R.S. 1800, contributing various treatises on physiology; 1808-25 lectured on anatomy at Royal Academy; knighted 1820; became president of the College of Surgeons, 1829. C. introduced the thin-bladed, straight-edged amputat-ing knife. His writings were largely ing knife. His writings were largely on anatomy; also on artistle and scientific subjects. One pamphlet was on Galranic Electricity. See Gent. Mag., il., Dec. 1840; Pettigrew's Medical Portrait Gallery, ii., 1840; Clarke's Autobiog. Recollections of the Medical Profession, 1874.

Carlisle, Frederick Howard, fifth Earl of (1748-1825), cducated at Eton and Cambridge. Up to the time of his appointment on a commission

of his appointment on a commission sent by Lord North to America he had spent his life in pleasure-seeking, but although this commission had no result he proved himself capable of holding such posts. From 1780-82, as Lord-Lleutenant of Ireland, he maintained peace and prosperity in that country. From 1789 until the French Revolution he was in opposition to Pitt, but at that time he joined the opposite party, and after voting against the Corn Laws in 1815 he retired into private life.

Carlisle, George William Frederick Howard, seventh Earl of (1802-64), educated at Oxford, where he distributed himself on a calculated.

tinguished himself as a scholar. In 1826 he went to Russia, and in the same year was elected to represent same year was elected to represent Morpeth, having become Lord Morpeth in 1825. In 1830 ho became member for Yorkshire, and in 1832 was elected to represent the West Riding. From 1836-41 he was Chief Secretary for Ireland, and in 1850 was made Chancellor of the Duchy of Laneaster. In 1855 Lord Palmerston in 1855 Lord Palmerston. ; ord-Lieutenant of e he held till 1858,

Ho wrote two bakeries. The United States has a lectures, on the poetry of Pope and

on his own travels in America, 1850; violent, and his victous mode of life and The Last of the Greeks, 1828.

Carlists, the name given to the fol-lowers of Don Carlos de Bourbon (1788-1855) and his successors, who have in turn laid claim to the Spanish throne. Don Carlos was the brother of Ferdinand VII. (1808-33). In 1824 many Spaniards were so discontented with Ferdinand that a plot was or-ganised to dopose him in favour of Carlos, but the latter firmly refused to countenance any rebellion. In1830 Ferdinand was persuaded by his queen to alter the existing Salie law and appoint his infant daughter as his successor, to the exclosion of Don Carlos. The elerical party again tried to persuade the prince to head a revolt, but ho once more refused. though declining to acknowledge the legality of the king's action. Ferdinand dled, Carlos was engaged in assisting Miguel of Portugal against his rehellious subjects, and could not join his own partisans who proclaimed him king, but were defeated. In 1834 he fied to England, returning soon to head a rising in Biseaya, which failed, and he again had to escape. after two years of adventure, in which he himself won no distinction. died in 1855; his son Carlos succeeded to his claim, but was expelled from France, and took no part in the abortive C. risings of 1846 and 1848. In 1860 he and his brother Ferdinand landed in Catalonia, but were cap-tured, and only saved their lives by a humiliating surrender of their pre-tensions. Their brother John now put forward his candidature, afterwards resigning it to his son, Don Carlos VII., who raised a C. war in 1872, and for a time had some snecess, but was finally driven out of the country in 1876. After giving trouble in many conntries he finally settled in Italy, where he dled in 1909. His son Don Jaime is now recognised by Cs. as the legitimato pretender.

Carloforte, an Italian tn. situated on the island of San Pietro, near the coast of Sardinia. It has large salt works, and the zine and lead mined in Sardinia is exported from the roadstead between this town and San

Pietro.

Carlos, Don (1545-68), only son of Philip II. of Spain, was from his boyhood of defective intellect and violent temper, and showed unmistakable signs of insanity; nevertheless an marry Elizabe

II. of France, of Pbilin's sec that monare

caused much scandal. In 1567 he was imprisoned on a charge of plotting to murder his father, and died within six months after, under mysterious circumstances which have never been fully explained. He was generally believod to have been poisoned, but this has not been proved. In Motley's Rise of the Dutch Republic, the story of his life is vividly related, and several writers, including Schiller and Alfleri, have founded dramas upon it.

Carlos I. (1863-1908), King of Portugal, socceeded his father Luiz I. in 1889. Ho was a lover of peace, and encouraged literature (he was the anthor of the best translation of Shakespeare in the Portuguese language), science, and art, but the latter part of his reign was disastrous, owing to the policy of his chief minister, Senhor Franco. The king and his eldest son were assassinated in Lis-

hon, Feh. 1, 1908.

Carlovingians, or Carolingians, a French dynasty, named after its greatest monarch, Carolus Magnus (Charlemagne). About the year 623 Clotaire II., one of the Merovingian kings, gave his son Dagohert the kingdoin of Austrasia (roughly spoaking Lorraino and Franconia), with Pepin as mayor of the palace, whose son Pepin II. made himself master of both Austrasia and Neustria in 637, though he did not assume the royal title. His natural son Charles Martel seized the reins of government on his father's death, and became renowned as a warrior and administrator, but still contented himself with heing ' Duke ' and chief minister to the nominal (For his great victory over king. the Saracens, see Creasy's Decisive Battles.) His son, Pepin III., put this bold question to the popo: Which has the greater right to the throne. the man who has the name and not the power, or he who has the power but not the name?' Receiving the answer he desired, he deposed Childeric, and became king, reigning from 752 to 768. He was succeeded by his son, Charlemagne, one of the greatest monarchs in European history, both Extending as conqueror and ruler. Extending his kingdom across the Pyrenees to the Ebro, eastward to the Elbe, the Bohemian Mts., and even to Croatia and Dalmatia, and southward Naples, he was crowned by Pope Leo arrangement was made that he should III. as head of the Holy Roman em-He was a patron of learning, tablishing schools and universities.

which he was greatly assisted by lenin of York. Charlemagne's son, engagement and married Elizaboth Lonis lo Debonnalr, shared his himself. After an illness in 1562 the domains between his sons, Charles II. prince's derangement became more taking France (840). Forty years later Charles III. re-united the ompire a profile a prof but was deposed by Odo of Paris, and though there were other C. monarchs their authority was little more than The dynasty ended with nominal. Louis V., who was succeeded by

Hugh Capet (987).

Carlovitz, or Karlowitz, a tn. in Slavonia, Austria, on the r. b. of the Danube, 6 m. S.E. by S. of Peter-wardein. The treaty of C. was signed here in 1699 between Turkey and the allies-Austria, Poland, Russia, and Venice. The town is noted for its sweet red wine, and has a Greek eatbedral.

Carlow: 1. Small inland co. of Ireland in Leinster. Area about 349 sq. m., mostly arable. It is bordered by mountains in S.E. (Mt. Leinster), the rest being level or undulating. Chief rowns, Carlow, Tullow, Barenalstown. Pop. (1901) 37,700. 2. Municipal bor., ebief tn. of above co., on R. Barrow about 50 m. from Dublin, on C. Railway. Seat of Catholic bishop of Kildare. Till 1885 sent one member to Ruins of an ancient parliament. Angle-Norman castle dating from 1180 can be traced. There are flourmills and much granite rock near by. St. Patrick's College was founded 1795; 1798 Irish rebels attacked the town, but were repulsed. Pop. about 6500. See Ryan, History and Anti-quities of Carlow, 1833.

Carloway, Doon of, the remains of a circular tower at Carloway, a town of Rosshire, on the island of Lewis in

Scotland.

Carlsbad, see KARLSBAD. Carlsburg, see KARLSBURG. Carlshamm, see Karlshamm.

Carlskrona, or Karlskrona, a forti-fied scaport and naval station of Sweden, on five rocky islands in the Baltie, which are connected together and with the mainland by fourteen bridges. It was founded in 1680 by bridges. It was founded in 1680 by Charles XI. It bas a magnificent barbour with a naval arsenal and dockyard. Pop. (1900) 23,955.

Carlson, Frederick Ferdinand (1811-87), Swedish historian and statesman. born at Kungshanin, Upland. He was educated at Upsala University, thor to the Swedish princes, 1837-46:
And professor at the university of Upsala, 1849. In the National Diet then the Academy of Sciences of Stockholm from 1850-65. His chief Haddingt work 15 Sveriges Historia Konungarne af Pfal-iska Historia under Huset, 1855-1910.

Carlsruhe, see KARLSRUHE. Carlstad, see KARLSTAD. Carlstadt, see Karlstadt.

Carlstadt, Andreas Rudolf Boden- ever, in poor eircumstances: Mrs. stein af (d. 1541), born at C. He was Welsh also discouraged his wooing,

Rome and he I doctrines as Luther. His views, however, were more advanced than those of the latter, and the two found themselves in opposition, as C. denonneed the practices of the church witbout limit. He was accused of taking part in the peasant's revolt and fled to

Switzerland about the year 1525. Carlton, a tn. of England in the co. of Nottingbamshire. It manufs. lace.

Pop. about 10,000.

Carlton Club, so called from being cariton Glub, so called from being near the site of Carlton House (famous during the Regeney); the headquarters of Conservatism since its foundation by the Duke of Wellington in 1832. The present building, 94 Pall Mall, was designed by Sir Robert Smirke. Number of members, 1800: entrange for fifth of the property of 1800; entrance fee, £40; annual subscription ten and eleven guineas.

Carluke, a Scottish tn. in the co. of Lanarkshire, about 5 m. N.W. of the town of Lanark. It is a large mining town, and quantities of coal and iron are found here. Pop. about 4800.

Carlyle, Alexander (1722-1805), was a Scottish minister. He took his degree at Edinburgh University and nfterwards went to the universities of Glasgow and Leyden. In 1748 he became minister of Inveresk, a position which he held for the rest of his He adopted the views of the writer, John Home, one of his friends and favoured the moderate party in the church. He numbered among his Adam Smith and friends David Hume, as well as other men famous in the literary world.

Carlyle, Rev. A. J., Scottish elergyman, born 1861 educated at Glasgow and Oxford Universities. He was or-dained to the curacy of St. Stephen's, Westminster, 1888. Secretary to S.P.C.K., 1890-91; rector of St. Martin's and All Suints', 1895; ex-amining ebaplain to the Bishop of C. is now Worcester, 1897-1901. (1913) chaplain and lecturer in political science and economies at Univerborn at Kungshanin, Upland. He sity College, Oxford. He wrote with was educated at Upsala University, his wife, Life of Bishop Latimer; and held, among other posts, those of with his brother, History of Mediaral tutor to the Swedish princes, 1837-46; Political Theory in the West, and an essay on the Church in Contentio

Carlyle, Jane Baillie Welsh (1801-66), wife of the historian, born near Haddington; among her ancestors were John Knox and Sir William Wallace. As a girl she was a pupil of Edward Irving, who in 1821 introduced her to C.; they became great friends, and their friendship ripened into a stronger feeling. He was, howpostponed, but the wedding finally took place in Oct. 1826. For years C.'s income was small, and his wife, who was not used to hardships of which he made light, suffered in health and spirits. After several changes of residence, botween Edinburgh ar hev resettled moved in Here, down in reputation increased, as C,'s they made many friends, among others Lord and Lady Ashburton. This This intimacy was in one way unfortunate; Mrs. C. thought herself slighted by Lady Ashburton, and said so; her husband thought her unreasonable. and she, greatly hurt, formed a circle of friends of her own. In 1857 Lady Ashburton died, a year later Lord Ashburton married again, and his second wife and Mrs. C. became close But there were also other friends. troubles, arising from C.'s bad health,

and a formal engagement was long was born on Dec. 4 at the little village of Ecclefechan in Dumfriesshire. After acquiring the rudiments of oducation from his parents, he went for a time to the parish school, and then, in 1805, to the Annan Academy, where for the first two years at least he was profoundly unhappy, finding his only comfort in omnivorous reading. He enterod himself in Nov. 1809 as a student of Edinburgh University, and there he remained until 1813, when he came down without taking a degree. It was at this time that he began to prepare himself to take orders in the Church of Scotland. supporting himself the while by teaching. In 1814 be obtained the post



studying medicine at Edinburgh and in Germany, tried to establish he practico in London, but failed; then obtained a post as private physician first to the Countess of Clare and afterwards to the Duke of Buccleuch. In 1843, having saved a modorate competency, he settled noar his brother, and devoted himself to literature. He began translating Dante's Divina Commedia, but only completed the Inferno, his rendering of which (published 1849) was highly praised; he also edited Dr. Irving's History of Scottish Poetry. Settling in Scotland during the latter part of his life, in bursaries medica)

of mathematical master at Annan Academy at a salary of about sixty pounds, and during the two years he was there he decided that he had not a call to the ministry. There seemed no eareer open to him execpt that of teaching, and from Annan he went to Kirkcaldy to take up a somewhat better paid position as assistantmaster at the parish school. There he became intimate with Edward Irving. who was at this time head of a school in the 1878 he founded two The friendship endured, but the love grearies at Edinhurgh affair was nipped in the bud. By Nov. University.

Carlyle, Thomas (1795-1881), his-that schoolmastering was the most torian and man of letters, the second dotestable occupation in the world, son of James C. by his second wife, and, having saved seventy pounds,

Charles and Arthur Buller, hoth of whom acquired some distinction in the world, at what seemed to him the splendid salary of two hundred a year. C. had soaked himself in German these studies dictated his earlier works, The Life of Schiller, which, after appearing serially in the London Magazine in 1823 and 1824, was published in 1825; and Wilhelm Meister's depressing his 1824. Apprenticeship, 1824. With Irving he had visited London in 1824, and made some acquaintances in literary circles; and after his return he persuaded Miss Welsh to become his wife. They were married on Oct. 17, 1826, and settled in Edinburgh, furnishing on the proceeds of German Romance, a volume of translations from Musacus, La Motte Fouqué, Ticck, Hoffman, Richter, and Gocthe. He now depended for his livelihood on his pen, and he was so fortunate as to secure admittance in 1827 to the Edinburgh Review, his first outribution being an essay on Jean Paul Richter. Soon he was in full work, writing for the principal periodicals, the Foreign Quarterly, the Westminster, and Fraser's Maga-cine. It was in the last-named that in 1833-4 Sartor Resartus appeared, hut it was so little popular that it was not until five years later he could find any one to bring it out in book form. In the summer of 1834 he took np his residence at No. 5 Cheyne Row, Chelsea, London, and there he wrote tho French Revolution, which appeared in 1837. He eked ont a meagre income by delivering courses of lectures ou German literature, 'Heroes, Hero-worship, and the Heroic in History,' etc., but he hated the work, and see the section of the s

he threw up his post, and went with Past and Present in 1843, and two Irving to Edinhurgh. It was his interest later gave to the world the tention to become a lawyer, but he epoch-making Cromwell's Letters and speeches. Latter-day Pamphlets was abandoned all desire to enter that issued in 1850, and the Life of John abandoned all desire to enter that issued in 1850, and the Life of John profession. He contrived to pay his Stirling in the following year. He now way by giving private lessons. Here he made his first plunge into authorship, writing articles for the Edinburgh Great, the first volume of which appeared in 1858, and the last in 1865. Using before this he had heen recognically desired to marry if he could obtain his release from his engagement contracted earlier with a was forthcoming in 1865, when he was held was forthcoming in 1865, when he was nominated against Disraell as a Miss Martin. C. was kept in ignorance engagement contracted earner with a was nominated against Distract as a Miss Martin. C. was kept in ignorance; candidate for the office of lord rector of the state of affairs, and he too fell of Edinburgh University, and was love the state of affairs, and he too fell of Edinburgh University, and was love to the suitor. In 1823, did not of his wife from heart-disease, while actually encourage him, but clearly driving in Hyde Park, on April 21, could not bring herself to dismiss as a 1866, caused him much grief, and the suitor. C. in 1822 became tutor to rest of his life was embittered by the Charles and Arthur Buller both of knowledge which came to him too. knowledge, which came to him too late, that he had, by his perverse ways and cross-grained temper, caused her great distress. He prepared for publication her Letters and Memorials, but these were not published until two years after his death. He was much pleased when in 1874 Prussian Order of Merit was bestowed on him, a compliment singularly appropriate, since Frederick the Great founded the order. In the same year Disraeli offered him the choice of a haronetey or the Grand Cross of the Bath, which touched him to the quick, for, as he said, Disraeli was the only man of whom he had always spoken with contempt. The letters exchanged on this occasion worthy of the writers, and will always find a place in any collection of the correspondence of great men. C. reboth alternatives, fused but thought more kindly of the statesman ever after. He died on Feb. 4, and a hurial service at Westminster Abbey was offered, but, in accordance with his wish, his remains were interred at Ecclefechan. C. won his place in the world of letters with difficulty. Sartor Resartus, his first important work. that fantastic gospel of clothes, set more against him at the time of its publication than it is easy now to conceive. The French Revolution, too, had its detractors, the true Carlylian style, in spite of its brilliance, annoying the critics. Yet, if ever it was the case, the style was the man. No man could acquire such a style, it was born with him, and his imitators, who at one time were numerous, have paid Hero-worship, and the Heroic in the penalty of oblivion for their History, etc., but he hated the work, attempts to ape the master. 'His and was relieved when Mrs. C. came faults of style,' said that discerning into her mother's small fortune in critic, Leslie Stephen, 'are the result 1842, and he could devote himself ex-clusively to his hooks. He published phasis of which he was conscious, and

which must be attributed to an ex-1 fact that the Duke had tried to poison

compelled to try to portray them vividly, and the conventional styles giving him no outlet, he made a style for himself, which is, however, always clear. The French Revolution marked him out as a star of great magnitude, and this impression was confirmed by his Cronwell, in which he gave a new, and probably truer, conception of the Protector's character. The fourteen years' labour that it took to produce Frederick the Great produced a work second only, if indeed second, to the French Revolution. The minute introductory survey of the Hohenzollern dynasty in the eighteenth century, in spite of the learning that inspired it, is dry-as-dust, though invaluable to students, but the most careless of general readers must appreciate in the later books the vivid characterisation of the king and of the leading figures that surrounded him. As a picturesque historian C. has no equal: to compare Macaulay with him is merely to show the difference between a lighted eandlo and an are-lamp. He had knowledge, as a matter of course; he had virility, and he had the power to convey his thoughts in a fashion so vivid that to read him once is never to forget him. The principal authority for C.'s life is his Reminiscences (cd. Froudo,

Carlyle, Tnomas (1803-55), a native of Kircudbrightshire, was called to the Scottish bar in 1824, and acted as defendant's counsel in the Campbell heresy trial, 1831. Joining the Irvingite church in 1832, ho was in 1838 appointed 'Apostic' to N. Germany, and during his residence there wrote his Moral Phenomena of Germany which attracted great attention.

many which attracted great attention. He died at Albury, Surrey.
Carnagnola, a tn. of Northern Italy, in the prov. of Turin, situated on the R. Po. Its manufs. are silk and jewellery, and it trades in corn and cattle. Pop. 12,000.
Carnagnola, Francesco Bussone (1390-1432), one of the celebrated condottiere, born at Carnagnola in Piedmont, Italy. He entered the service of Filippo, Duke of Milan, who raised him to the rank of count and mado him governor of Genoa. His mado him governor of Genoa. success in the field roused the Duke's jealousy, and before long there was a ecolness between them, ending in a definite rupture. C., in rovenge, offered his services to the Venetians. The political situation of Vonice made

cessive nervous irritability seeking him gave the senate confidence in his loyalty to them. He defeated the Duke's army at Maelodio, and took Breseia from him. After this, peace was made lasting only for one year. On the renewal of hostilities C. again took command, but he was also in communication with the Duke, who tried to seduce him by the offer of His indifference resulted in reverse and failure, and the senate, tired of his duplicity, entited him to Venice, where he was brought before the Committee of Ten, tried, tortured to extort a confession of guilt, and beheaded.

Carmagnole (from Carmagnola, N. Italy): 1. A peasant costume of Piedmont and the Midi, earried by southern revolutionaries to Paris in 1793. 2. A wild song and dance which went with the costume, and were in great favour with the ' Reds during the Terror. The refrain of

each verse was-

'Vivo io son, vive lo son, Dansons la Carmagnole, vive le son du canon!

Carman, Bliss (b. 1861), Canadian poet, born at Frederleton in New Brunswick. After an education at Brunswick. After an education at the universities of New Brunswick, Edinburgh, and Harvard, he became a journalist, and has published several rollmens, and has promised to may be named: Low Tide on Grand Pre, 1893; Behind the Arras, 1895; Rallads of Lost Haren, 1807; Songs 1881), and for Mrs. C.'s life her Letters Ballads of Lost Haven, 1897; Songs and Memorials, 1883. Hovey), 1894, and two continuations in 1896 and 1900; A Winter's Holiday, 1899; Christmus Eve at St. Kavin's, 1901.

Carmania, a steel turbine steamer, carmania, a steel turbine steamer, triple serew, owned by the Cunard Line. It was built by J. Brown & Co., Ltd., of Glasgow, in 1905, and launehed at Clydebank. Length 650 ft., breadth 72, speed 20 knots. Carmania, the ancient name of Kirman (g.w.).

Carmarthen, a co. tn. and parl. bor. (united with Lianelly, since 1832) on the Towy, Carmarthenshire. Though of great antiquity and legendary fame, it has very fow old buildings. Once the principal centre of the Welsh wool trado, it has now several important industries. 10,000.

Carmarthen Bay, a large opening on the S. coast of Walcz, chief this. Te-1 and Lianelly.

largest co.

of rivers the Towy, Taf, and Teifi. On the S.E. border Carmarthen Van, in the Black Mts., rises to 2632 ft., and Mynydd Mallaen in the N.E. 1997 his assistance most welcome, and the Mynydd Mallaen in the N.E. to 1430

The county is served by the G.W. the men and resulted in the formation and L.N.W. railways, the former of a new order of Discaled or Barerunning through to Pembrokeshire, footed C., which has prospered far while the latter ends at Carmarthen, more than the old order. There are two county parliamentary divisions and one borough, each returning one member. The total pop. is nearly 140,000. The antiquities of C. are numerous and interesting, ineluding British and Roman remains. and many mediæval ruins. Old Welsh folk-loro and superstitions linger in the valleys, the traditional beaver hats and plaid shawls are hardly yet extinet, and a eurious inquirer may find, if not fairies, at any rate believers in them.

Carmaux, a tn. of S. France in the dept. of Tarn, situated on the R. Cérou, 10 m. N. of Albi. There are coal mines in the neighbourhood, also brick and glass works. Pop.

11,000.

Carmel, Mount, is a range of mountains in Palestine 18 m. long, extending from the plain of Esdraelon in a N.W. direction through the plains of Sharon to the bay of Acre, where it terminates in the only promontory on the Palestine coast. The highest point is 1750 ft. It is very fertile and beautiful, and hares, partridge, quail, woodeock, and jackals are found. Mahara-jah (' the place of burning '), a cliff 1700 ft. above sea-level, is the reputed seene of Elijah's sacrifice, and close by is the cave in which he is said to have lived. According to Tacitus, a god Carmel was worshipped here.

Carmelites, Order of, or Friars of our Lady of Mt. Carmel, commonly called in England 'White Friars,' account of their grey scapular, founded in 1156 by an Italian sader, Berthold, who established a

from the time o

then converted, the community bad griping and as gentle tonics to stimu-continued without a break. The late digestion. controversy on this question reached its height in the 17th century, and was only stopped by a papal ediet in 1698. In 1238, the C. were driven ont of Palestine by the Saraeens, and settled in Cyprus, then spreading In manufacturing C, the cochlneal is

ft.; there are many other groups in the county, mostly grassy hills under 1000 ft. The valleys are fertile, and the C. were in 1247 changed by the hillsides afford good pasturage. Pope Innocent III. from hermits into mendicant friars. In England they limestone, clay, and some lead, but flourished greatly, and possessed fifty-its industries are shifty agreed that they have not the discolution of the its industries are chiefly agricultural, two houses at the dissolution of the raising, the coal-mining, iron-founding, and smelting-works being confined to the S.E. Along the coast attempted to restore to its primitive there are extensive sands and marshes.

Carmen, a port of Mexico in the state of Campeehe, Yucatan. It is situated on the island of C., and possesses a good harbour. There are exports of dye woods. Pop. 6500.
Carmen Sylva, the pen-name of Elizabeth, Queen of Rommania (1,20).
Carmichael. James Wilson (1800)

Carmichael, James Wilson (1800-68), English painter, born at New-castle-on-Tyne. He was chiefly famous for his pictures of marine sub-jects; wrote two works of some value, The Art of Marine Painting in Water Colours, 1859, and The Art of Marine Painting in Oil Colours, 1864. Ills pictures were exhibited at the Royal Academy and elsewhere, his first appearance being in 1838. He painted in London from 1845 to 1862, when he

went to Scarborough, where he died. Carmignano, a tn. of Italy, in the prov. of Tuscany, 13 m. N.W. of Florence. The manufacture of straw plait and hats is carried on, and there is a proper trade in wine. Post there is an export trade in wine. Pop.

11,800.

Carmina Burana, a collection of songs, mostly in Latin, but some in German, written by Goliards or wandering scholars of the 12th and 13th centuries. These men were elerks, and the sours have generally the form of hymns. They vary greatly in character, some being lofty in tone, others worldly, satirical, and even distinctly immoral. The MS, is now at Munleh, but was not better the satirity in the same better the same but was once kept at the abbey of n Bayaria, whence

their name. Sec Her (2nd edit. 1883).

Carminatives, remedial hermitage on Mt. Carmel with some which relieve flatulence, colle, etc. few companions. It was believed by The ordinary condiments, as pepper, many, however, anchorites had agents

peppermint, may be used as are also used in conjunction

exhausted with boiling water, and the connects Tau-y-Foel with C. colouring matter precipitated by the addition of acid or acid salt.

Carmona, a tn. of Spain in the prov. of, and 20 m. N.E. by E. of the eity of, Seville. It is visited by the residents as a holiday resort. The manufactures are woollen goods, leather, and earthenware, and it trades in wine,

olive oil, and grain. Pop. 18,000. Carnac is a vil. in the dept. of Morbihan, France. It is famous on Morbihan, France. It is famous on account of the great druidical monuments in the neighbourhood. avenues, consisting of thousands of blocks of rugged grey granite, extend over 11 m. of heath. The blocks are in the form of obelisks with the apex reversed: none are more than 18 ft. high. These menhirs, or standing stones, are in eleven parallel rows. Here and there the rows are irregular, the gaps being accounted for by the houses in

which the utilised this stone. There are various groups of structed at Kermenhirs round C., situated at Ker-inario ('place of the dead '), Kerles-cent ('place of burning '), Erdover, and St. Barbe. The object and origin of these stones is uncertain. Roman remains woro found about 1 m. away from C. when the Bossine, another group of mounds, was explored by Mr.

Miln, 1874-80. Pop. of commune, 2901. Carnac, or Karnac, a vil. of Upper Egypt, in the prov. of Keneh, built on the ruins of the ancient city of

Thebes.

Palm. Carnahuba, Carnauba Copernicia cerifera, a Brazilian palm which is of handsome appearance and great use. leaves exudes quantities of wax which is manufactured into candles and serves to adulterate bees'-wax.

Carnarvon, armoured eruiser of the British navy, completed in 1905. built by Beardmore at a cost of nearly

£900.000.

Carnaryon, the eo. tu. of Carnaryonshire, N. Wales. It is situated on the Menai Straits, and is 68 m. W. of Chester on the L. and N.W. Railway. It was once the Roman station Caer Seint, the capital of the Segontiaci. The castle, one of the finest examples of mediceval fortification in the British Isles, lies to the W. of the town. It was built by Edward I. in 1284, and is in excellent preservation. It is an irregularly shaped building with thirteen polygonal towers; the famous Eagle Tower was built by Edward II. The castlo was besieged by Owen well-known valleys of Beddgelert and Glendower in 1402. The investiture Lianberis. The centre of the county Glendower in 1402. The investiture

town is a municipal borongh and market, and with Bangor returns one member to the House of Commons. The chief industries are shipbuilding. fishing, and tanning; slate and copper ore are also exported. Pop. 9760. Carnarvon Bay, to the S., is a very favourite summer resort.

Carnarvon, dist. and tn., N.W. of the prov. of Cape Colony, S. Africa, 102 m. N.W. of Beaufort W. For the most part the district is very dry. but it is possessed of an immense reservoir, the Van Wyk's Vice. Pop. of district 6172, of town, 1000.

Carnarvon, Henry Howard Moly-neux Herbert, fourth Earl of (1831-90), English politician, succeeded to the title in 1849. After taking his degree at Oxford, he took a prominent place as a member of the House of Lords, and in 1858 was made Under-Secretary for the Colonies, succeeding to the Secretaryship of State in 1866. He introduced the bill for federating the Canadian provinces, the North America Aet; but resigned office owing to his disapproval of the Reform Bill of 1867. In 1874 ho again joined the Consorvative cabinet, but resigned in 1878 over the Eastern quostion and Disraoli's policy. 1885 he was made Lord-Lloutenant of Ireland and came into conflict with Parnell over a privato interview in which he was alleged to have made overtures on behalf of the Conservative party in regard to Irish Home Rule. He again resigned. In 1887 hc

The under part of the President of the Society of Antiquaries.

Carnaryonshire (Welsh, Caer-'narfon, Caer-yn-Arion), one of the northern counties of Wales, bounded N. by the Irisb Sea, E. by Denbigh N. by the Irish See, Irish and Merioneth, S. by Cardigan and Tremadoc Bays, W. by Carnarvon Bay and the Menai Straits, dividing it from Anglesey. The area is 565 sq. m. A large part of the county is occupied by the Lleyn peninsula jutting out into the Irish Sea and forming Carnarvon and Cardigan Bays, small portion of the county is de-tached on the N. coast of Denbighshire. C. contains some of the finest seenery in Wales, with splendid mountains and beautiful valleys. The

(Wyddfa iest point ot lie the

as Prince of Wales of Prince Edward is the most mountainous, with Cartook place at the castle in July 13. nedd Llewelyn (3484 ft.), and Carlella The parish church lies outside hedd Dafydd (3426 ft.). The tidal the town at Llanbibby. A steam ferry river Conway is navigable for about

12 m. and divides Carnarvon from Denbigh; the Nant Ffrancon runs through the Bettws-y-Coed valley to Beaumaris Bay; the county also boasts of many lovely lakes. The L. and N. W. and the Cambrian railways supply a service of trains to the many places of resort, such as Criecieth, with its castle, Penmaenmawr, near the Great Ormc's head, Llandudno, etc. Lead, copper, and some gold is found, and the slate quarries, especially those at Penrhyn, are most productive. Sheep and dairy-farming are carried on in the valleys, and the Welsh ponies are hred here. In ancient times C. was inhabited by the Segontiaci; from here Agricola effected the conquest of Anglesey; many remains of British earthworks. etc., are to be found in various parts of the county. Carnarvon is in the diocese of Bangor, with a small portion in St. Asaph. It returns two members to the House of Commons. Pop. 126,000.

Carnatic, or Karnatic, the European name of a region of Southern India, lying hetween the Coromandel coast and the Eastern Ghats. It now forms part of the governorship of Madras. In the 18th century it was ruled by the Nawnb Sa'adet Allah of Arcot and his successors, and was the centre of the struggle for supremacy in India between France and Great Britain. In 1801 it came under British rule. The district abounds in temples, some of great age and beauty. The pop. consists chiefly of Brahmanical Hindus.

Carnation, the name given to many double-flowering varieties of plants which have sprung from Dianthus carpophyllus, the clove-pink, a beautiful specimenof Caryophyllacere. They are cultivated very largely lo Britain, and range in colour from red to white, yellow, and violet, and many of them are heautifully variegated. They never occur in a wild state, but they are hardy and require only a rich, They light soil in which to bloom. Propagation may be effected by means of layering, cuttings, and seeds, but the most successful of these methods is by layer or hy plpings.

Carneades (213-129 B.C.), a Greek philosopher, born at Cyrene, was the founder of the New Academy. More ís kı an his life. His the Stoic and dies were exposing whose fallacies he established his own philosophies. In 156 he was sent on an embassy to Rome, where his elequence and brilliant argument

philosophy. who expelled him.

Carnegie, tn., Allegheny co., Ponnsylvania, U.S.A., 6 m. S.W. of Pittsburg. It was formed into a borough in 1894, and gains its name from Andrew Carnegie. It possesses large steel and iron works; there are alkaline and lithia mineral springs hard by. Pop. 8000.

Carnegie, Andrew (b. 1837), American manufacturer and philanthropist, was born in humble circumstances at Dunfermline in Fifeshire, Scotland. In 1848, his parents emigrated to America, settling at Pittsburg, Pa. The boy entered a cotton factory as a weaver's assistant, and for some time his wages were a little over one dellar per week. At the age of fourteen he became a telegraph boy in Pittshurg, and learned to telegraph. Then, joining the Pennsylvania Railroad, he became telegraph operator, and ultimately rose to be superintendent of the Pittshurg division. was at this time that he laid the foundation of his fortune by the introduction of sleeping-cars on the railway, and by his successful invest-ments in oil lands near oil City. It was after the Civil War, during which he had rendered valuable service to the government as superintendent of military railroads, that his great work began, in the development of the Pittsburg iron and steel industries. He established the Keystone Bridge Works and the Union Iron Works, for the manufacture of steel rails. He then built the Edgar Thomson Steel Works, and in 1883 nequired the Homestead Steel Works. His sphere business extended with rapidity, until in 1901, the whole of the vast C. enterprise was taken over by Mr. J. Pierpont Morgan, as the United States Steel Trust, and Mr. C. himself retired from business. Since this time public attention has been fixed by the admirable manoer in which Mr. Carnegle has utilised his vast wealth for philanthropic purposes. Perhaps chief among his works has been the provision and equip-ment of libraries in England and English-speaking countries. He has distributed over £10,000,000 for this purpose alone. For the benefit of scottish education, he gave in 1901 a sum of £2,000,000 to provide class-fees for students, and he has also made presentations to English and American universities. In 1903 Mr. founded the Dunfermline Trust with an income of £25,000, for the improvement of his nativo town. He has also creeted homes and provided trade of the definition of the design of the desig funds for his old employees. Mentioo must he made of the Carnegic Hero incited the young Romans to study Fund, started in 1904 for the United This displeased Cato, States and Canada: la 1908 for the him.

United Kingdom. Its purpose is 'to

place those following peaceful voca- cession of the Bœuf Gras takes place tions, who have been injured in an the animals being led through the heroic effort to save human life, in somewhat better positions pecuni-arily than hefore, until again able to work.' Mr. C.'s publications include: American Four - in - Hund An American Four-in-Hand in Britain, 1883; Round the World, 1884; Triumphant Democracy, 1886; The Gospel of Wealth, 1900; Empire of Business, 1902; Problems of To-day, 1908. See Alderson's Life.

Carnforth, an English tn. in the eo. of Lancasbire about 6 m. from Lancaster, on the L. and N.W. Railway. Its chief industry is iron. Pop. about

3050.

Carnières, a tn. of Belginm in the prov. of Hainaut, on the ronte from Mons to Charleroi. There are stone quarries, coal mines, and iron works in the neighbourhood. Pop. 8000.

Carnival (carno, flesh, levare, to

lighten).

'This feast is named the Carnival, which helng

Interpreted implied farewell to flesh.' BYRON, Beppo, vi.

It commenced on the feast of Epiph. any, or Twelftli Day, and ended on Shrove Tnesday, but was afterwards foot; the scaphold and lunar hones restricted to eight days before Asb are finsed in the manus; and the clays Wednesday, the feast preceding the long fast. Its origin was doobtless the Saturnalia of the pagan Romans, who on becoming Christian, Incorporated adapted to the mode of life of the many of their rites and customs in animals. There are nearly always six their new religion. In Roman

Germany, Fusching, as the called, was the precursor drama, and at Nürnburg the first molar in the upper jaw and the first true molar in the lower differ from the developed later into masques and others, and are called carnassial or mysteries. In Germany only the sectorial; in front of the carnassial Catholic cities of the Rhine formerly Venice there is a mad riot of revelry. Riderless horses race down the Corso.

Everyono wears the mascara, cos-

after sunset, every one sallies forth with a lighted taper. The object is to put out as many tapers as possible of to the chief days, viz. Greasy Snnday, dantly discovered, and have proved Blue Monday, or Fool's Consecration. On the Snnday before Lent the prographical distribution of the animals

the animals being led through the streets by butchers in costume. the Nice C. mi-carême, an effigy of King C. is paraded through the streets.

Carnivora

Carnivora (Lat. earo, flesh, torare to devour) form in zoology an important mammalian order. As the name implies, the members are all flesh-eaters, but they are not the only creatures which feed on their fellows -the diet of blood-sucking bats and some marsupials, such as the opossum. bear evidence to this fact-and many of these so-called carnivorous animals are either omnivorous or largely herbivorous. The order is usually divided into the sub-orders Fissipedia. or terrestrial members of the group, and Pinnipedia, or the aquatic forms, with flippers for limbs; the latter division is, however, by some zoologists considered to be a separate, though nearly allied, order. The characteristics of the C. are the sharp teeth, small incisors, well-developed brain, simple stomach, reduced or absent cæenm, zonary placentation, incomplete or absent clavieles; there are never less than four toes on each

ich iaw, and two es. The cheek-

tootb are grinders with cutting edges, kept the festival, but it has been and bebind are others which are revived now in Hamburg, Leipzig, hroad and tuberculated. In the Pinand Berlin. As a role, Protestant, eountries do not observe it. Italy is the incisors are never less than two in the country in which It is most cele- cach jaw, and the check-teeth do not Goethe has described it in vary in formation. The mode of procharacteristic style. In Rome and gression in the former snb-order is

tumes vie with each other in extrava-swimming purposes, but the hind ganee and bizarre design. Masks, limbs may be used when the animals gance and bizarre design. Masks, limbs may be used when the animals balls, and flower throwing are the travel on land. Considerable difficulty balls, and flower throwing are popular pastimes.

Decorated cars. Is experienced in classifying the corporation of the first part of the case of the c sented by the cats, the Cynoidea by dogs, and the Arctoidea by bears. The Pinnipedia consists of the walrus other peoples while preserving their and various seals. Fossil species of own alight. Special names were given to the chief days, viz. Greasy Snnday, dantly discovered, and have proved

the dog and the cat. Carnivorous Plants,

Carnot, Lazare Hippolyte (1801-88). French statesman, was the second son of General Lazare N. Marguerite C., born at St. Omer. He shared his father's exile till 1823, and on his return devoted himself to literature and philosophy. Entering polities, he was elected deputy for Paris, 1839, becoming one of the leaders against Louis Philippe; he was Minister of Education in 1848 and retired on refusing to take the oath to the Emperor Napoleon. He died three months after the election of his son, Sadi C., to the presidency of the republic.

(1753-1823), was born at Nolay, Bur- in the neighbourhood. Pop. 5500 gundy. France. He entered the French. Carnuntum, a Roman forti army, 1784, as an engineer, having obtained a captaincy on the conthe Committee of Public Safety.
After reorganising the revolutionary dismissed, and finally sentenced to transportation. He fled to Germany. and there wrote a defence of himself. which caused his colleagues' ruin. He was recalled to Paris in 1800, and became minister of war, conducting the Italian and Rhenish campaigns This ended, he with great credit. retired from public life, and wrote bis Traité de la Defense des Places. Again Traite de la Defense des Places. Again Carnwath, a par. and vil. of Scotin 1814 France was in difficulty, and land in Lanark, 27 m. S. E. of Glasgow. defending Antwerp against the allies, quantities He was minister of the interior during Pop. 5600. the Hundred Days, after which, worn out with the strife of public life, he retired to Warsaw, then to Magdeburg, where he died.

Carnot, Marie François Sadi (1937-94), president of the French republic, was the eldestson of Lazare Hippolyte C., and grandson of Lazare N. Marguerite C., the 'organiser of victory.' He was educated as a civil engineer, and entered the public service. strong Republican, he was elected to the National Assembly in 1871 and a comedy Gli Straccioni, Rime c joived the ministry in 1878; in 1880, Canzoni, sonnets, and an amusing he was Minister of Public Works, and eulogy of the hlg nose of the president

is world-wide but for Australia and in 1885 Minister of Finance. In 1887, New Zealand, and our domestic pets after the 'decoration scandals,' he include two typical representatives in was elected to the presidency and had to meet the danger from the Carnmoney, a vil. of Ireland in repeated during the Panama scandals co. Antrim. 5 m. N. of Belfast. Agriculture is the chief employment. culture is the chief employment, and were proved. In 1894, at the beight of flax spiuning is carried on. Pop. 7600. his popularity he was assassinated by an Italian anarchist, Caserio, after speaking at a public banquet at Lyons. Carnotville, a tn. of W. Africa, and

a French station, belonging to the French colony of Dahomey.

Carnoustie, a tn. and police burgh in S.E. Forfarshire, Scotland, 10 m. E.N.E. of Dundee by N. British Railway. It is a favourite watering-place on the North Sea, with excellent sea bathing and golf. The dangerous shoals, the Roaring Lion, lie off Buddon Ness, on which are two light-honses, huilt one above the other. The large artillery and camping Carnot, Lazare Nicolas Marguerite ground, known as Barry Links, are

Carnuntum, a Roman fortified station, of which the remains exist near Hainhurg, in Austria. It was pletion of his studies at the military the centre of Roman military opera-school of Mazières. In 1786 he pubitions on the Danube, and of the trade lished his eclebrated Essai sur les in amher from the N., belonging first Machines en Générales. In 1791 he to Norieum and later to Pannonia-became a member of the national 'The name, connected with karn, cairn, assembly and an influential power on points to its Celtic origin. Marcus Aurelius made it his headquarter-against the Marcomanni, and Septiarmies he concentrated his energies imus Severus was proclaimed emperor on repulsing the powers of Europe by the soldiers there. In the 9th from the frontier of France. During century it was destroyed by the the reign of terror be was accused, Hungarians. The ruins are extensive.

Carnutes, a Coltie tribe of Central Gaul, between the Seine and the Loire. The chief towns were Cenahum (not Genebum), now Orléans, and Chartres. They were subdued by Julius Cresar, and in return for military services retained their institutions under Augustus, becoming faderati of the Roman empire.

C.cameforward to help inagnificently | Coal and iron are obtained in large quantities from the neighbourhood.

Ĉaro, Annibale (1507-66), Italian poet, born at Civita Nuova in Ancona. He was tutor and secretary in a rieb Florentine family, named Gaddi, and was presented to an ecclesiastical benefice in Rome. In 1543 he became the confidential secretary of Pietro Lodovico, Duke of Parma, and afterwards to his sons. His best-known works in verse in-A clude translations from the classics.

the Ecolc Normale. He graduated in was professor to the Faculty of Letters of the Academy. He was elected to the Academy in 1874. His philosophical works, mainly directed | Elaine against the positivist attacks on the Christian position, include Le Matérialisme et la Science, 1868; Le Pessimisme au XIXme Siècle, 1876; La Philosophie de Goethe. 1880. married Pauline Cassin, the authoress of Péchéde Madeleine and other novels.

Carob-tree, or Ceratonia siliqua. constitutes a genus of Leguminose Century, 1891.

common to the Mediterranean. See Carolina, North and South, two of Ceratony Study.

CERATONIA SILIQUA.

Carol (O.F. carole, a dance with song), in accepted English usage, a song for the Christmas festival. Diez suggests that the origin of the word is 'chorus;' others derive it from corolla, a little erown or garland. The carliest meaning applied to the word seems to have been a 'ring-dance' or 'to dance in a circle.' Stonehenge, once called 'the Giant's dance,' was also the 'Glantes Carole. Dancing and singing were part of religious worship from the earliest times. Carolling, dancing with sing-ing, was handed on from pagan ritual to the Christian Church. In 1209 the Council of Avignon forbade dancing and secular singing in churches. In the cathedral of Seville the choristers perform a castanet dance round the lectern thrice a year. Caxton, in the Golden Legend, refers to the 'carolles of virgyns,' and Chaucer uses the word in 'I saw her dance so comely, carol and sweetly sing.' In Spain many and sweetly sing. In Spain many early Cs. refer to gipsy girls dancing and singing. The Manx people have a collection of Cs., locally called 'carrels,' which were sung in the churches on Christmas Eve, each singer bringing with him a candle. Most of these Manx Cs. consist of tales of the judgment day and hell and not of the Nativity or the joyful themes of Christmas - tide. The Bretons have also a large collection Bretons have also a large collection of ancient Cs. The earliest printed of ancient Cs. The earliest printed of England, a sister of George III. Swynkyn de Worde; this contains the famous 'Boar's Head Carol,' still sung at Queen's College, Oxford, to usher in the boar's head. There are numerous collections of French Cs., called Noëls, and several German or thirty-one when she came to England to marry the Prince of Wales. The marriage was unhappy from the wedding-night, when the called Noëls, and several German

of the Accademia della Virtu, Leoni Wiegenlieder, cradle-songs, associ-Ancona. His prose works consist ated with the Babe of Bethlehem, the chiefly of translations from Aristotle. Iullaby Dormi, Fili, being one of the Hispoetry is marked by high qualities, best known. Some of the 15th century and his letters by remarkable finish of style. He died at Rome.

Caro, Elme Marie (1826-87), French philosopher, born at Poitiers, was three ships come salling by. That the educated at the Stanislas College and singing of Cs. as an excuse for the singing of Cs. as an excuse for the asking of alms was a very early 1898 and became professor of philo-sophy in the provinces, and in 1864 Norman C. now in the British Museum. The word C. is freely used by poets in reference to people or birds singing joyously, such as in Tennyson's Elaine 'carolling as he went a true love ballad,' or in Spenser's Epithalamion, 'the cheerful birds do chaunt and caroll of love's praise.' Wright, Songs and Carols, See 1847: W. Sandys, Christmas-tide, its History, Festivities, and Carols, 1852; J. A. Fuller-Maitland and W. S. Rockstro, Thirteen Carols of the Fifteenth

bounded on the E. by the Atlantic, on the S. by Georgia, on the W. by Tennessee, and on the N. by Virginia. Colonisation was first begun by Sir Walter Raleigh, but it was not till the reign of Charles II. that the settlements showed signs of prosperity. N.

ments snowed signs of prosperity. N. Carolina, area 52,426 sq. m.; pop. (1900) 1,893,810. S. Carolina, area 30,989 sq. m.; pop. (1900) 1,340,316. Caroline (1683-1787), Queen of George II., was the daughter of John Frederick, Margrave of Brandenburg, Angageh. Five years offer hos father's r roceries, margrave of Brandenburg, Anspach. Five years after her father's death in 1687 her mother married Elector John George IV. of Saxony, and C. lived with her mother at Dresden. Left an orphan in 1696, the girl lived at Berlin with her guardians, girl lived at Berlin with her guardians, Elector Frederick III. of Brandenburg, and his wife, Sophia Charlotte, daughter of the Electress Sophia. Nine years later she married George Augustus, Electoral Prince of Hanover, by whom she had many children, the eldest being Frederick, afterwards Prince of Wales. When her father in law became King of her father-in-law became King of England in 1714, she and her consort (now Prince of Wales) came to this country. Thirteen years later George Augustus ascended the throne.

Caroline Amelia Elizabeth, of Brunswick (1768-1821), Queen of George IV., was the daughter of Charles William Fordinand, Duke of Brunswick, and of Princess Augusta of England, a sister of George III. She was a bright, headstrong, foolish woman of thirty-one when she came Amelia Elizabeth, Caroline

birth of a daughter, Charlotte, a ing to a prehistoric race well adseparation took piace, and the vanced in general culture. In the princess went to live at Blackheath. Island of Léié the ruins appear like a In 1806 an inquiry was made into citadel with basaitic ramparts; there the charges of adultery brought are also numerous canais and apagainst her by Lady Dougias, but parently artificial harbours with high the commissioners decided that she was guilty of nothing worse than in-discretion and that Lady Douglas bad committed perjury. The matter was re-opened by the prince six years later, with the same result. Weary of continual persecution at the hands of her consort, she went alroad in 1813. When she became queen seven years later, she returned to England. She was now tried before the House of Lordsfor miseonduct with Pergami, but the bill was not proceeded with. So strong was the feeling in her favour, that had she been found guilty it is in the highest degree pro-bable that George IV. would have lost his throne. A few days after the the royal physician, Struensec (4.0.1) coronation, at which she was not even permitted to be present, she died. As linison roused the anger of the people, ber coffin was borne through the who did not helieve in the mental metropolis, on its way to the people showed their with her by attacking th

Clerici, 1907; and Lewis Melville, 1912. Caroline Islands, a scattered archipelago in the Pacific Ocean, iaciuded pciaro in the Pacific Ocean, iaciuded in Micronesia, between 5° and 10° N. and 135° and 165° E. They beiong to Germany. The total iand area is 380 sq. m., and total area 800 sq. m. Pop. about 40,000. They are divided into three groups, E., W., and Central. The chief islands are Ponape and Kusaii in the E. group, Yap in the W., Truk in the Central. The Pelew Is., of which Babelton is the largest, are administ Babeltop is the largest, are administrated from Yap. The climate is healthy, but the islands are subject to severe storms and the rainfall is beavy. Among the chief products are copra, pearl and turtle shell, and beche de mer. The natives, very mixed ethnologically, are excellent boat-builders and navigators and successful agriculturists. Yap is remarkable for its peculiar currency; in addition to the ordinary shell-money, huge limestone disks are used from 6 in. to 12 ft. In diameter; these are brought from the Pelew Is., and are piled round the parently

by the Portuguese Diego da Rocha, who named them Sequeira Is: In 1686 they were renamed by Admiral Franeiseo Lazeano In honour of Charles II. of Spain. In 1899 they were bought by Germany from Spain for 25,000 and In Ponape and I. pesetas. colossal stone structures exist,

sea walls built in the water. The whole island of Ponape is strewn with basalt blocks of huge size put together without mortar, once having formed massive walls. The present Polynesian peoples could not have planned or executed these works, and they are attributed to a race of the new Stone Age, possibly coming from the Asiatic mainland. See F. W. Christian, Caroline Islands, 1899.

Caroline Matilda, Queen of Denmark and Norway (1766-72), was born 1751,

k, Prince of ed Christian nd Norway, influence of

was arrested she shared his made an attempt to shield him. He did not try to conceal their guilt, and on his execution she was divorced and sent to Celle where she died, 1775. See Wraxall, Life and Times of Queen Caroline Motilda, 1864; Wilkins, A Queen of Tears, 1904.

Carolings, see CARLOVINGIANS. Carolus, the popular name of an English gold coln, struck in the reign of Charles I. It was rated at £1, but appreciated in value to £1 3s. 9d. Its official title was 'unit,' and it was also called a 'broad.' 'C. dollars,' Spanish, of Charles III. and IV. were long current in the E., especially in China, containing eight reals; they were known as 'pleces of eight.' They are still current in some of the teagrowing districts of Chlna, and as the people hoard them they have greatly exceeded their intrinsic value.

Carolus-Duran, the name adopted by Charles Auguste Emile Durand, French painter, horn at Lille, 1837. He first studied at the Lille Academy, and then went to Paris; in 1861 he travelled in Italy and Spain, where the pletures of Velasquez greatly appealed to him. He mado a special study of that great master's stylo and the s study of that great master's stylo and technique. His first success was with a subject picture, 'Murdered, or the Assassination,' which is now in the Lille Museum. Later he became a famous portrait-painter. In 1869 a portrait of his wife, called 'Tho Lady with the Glove,' was bought for the card of one The C. ead of one ^caris, and

artists of

to-day, including J. S. Sargent, were capital and to maintain an alliance his pupils. His extraordinary power of vivid realism and his exquisite handling of surfaces are only two of his chief characteristics. In 1904 he was made a member of the Académic des Beaux Arts, and, 1905, Director of the French Academy at Rome.

Caronia, a seaport on the N. coast

of Sicily, in the prov. of Messina, 20 m. E. of Cefaiu. Pop. 5500. Garora, a tn. of Venozueia, S. America, in the state of Lart, situated on the Riv. C. Rubber, leather, and hides are exported, and horseraising is an industry. Pop. 6000.

Carotid Arteries, two arteries which convey the blood supply to the head. They pass through the neck on either side of the windpipe, and each opposite the angle of the jaw divides into two. one branch serving the nose and eyes. and the other branch the brain. Tho pulsation in these arteries is easily felt from the surface.

Carouge, tn. and subnrb of Geneva. Switzerland. It became part of the canton of Geneva in 1815, previously belonging to Savoy. It is sitnated on the R. Arve. Pop. 7487.

Carp, or Cuprinus carpio, belongs to the sub-order Ostariophysi of the order Teieostei. Originally it beionged to Asia, but it has been introduced into Europe and for soveral centurics has flourished in Britain. The fish. which is elosely related to such wellknown species as goid-fish and minnows, often grows to a very large size, and may weigh as much as fifty pounds; examples have been known to attain a great age also, some living as long as 200 years. In colour they are brown above, light beneath, have a compressed body covered with large scales, a long dorsal fin and shorter anai fin, and round the mouth depend four barbeis. The C. usually inhabits quict jakes, ponds, sluggish 10 streams, and during winter hibernates in mud; it is capable of living for a considerable time out of water. Its food is either vegetable or animal. The female is very prolific and spawns on weeds in May or June.
The Crucian or Prussian C., a native of Europe, has the technical name Carassius vulgaris, while C. auratus is the gold-fisb. Carp, Petre (b. 1837), Roumanian

statesman, born at Jassy. He was the leader of the Young Conservative or Janimist party, the Janimed being a literary society which he founded Rosetti and Maiorescu changed into a political association, 1881. The object of the party was to improve the condition of the peasantry, to introduce a gold peasantry, to introduce a gold away in the snow-bound standard, to develop the industries an elevation of 6000 ft. of the country by means of foreign known passes are Teregova, from

C. cante into a bill for the ands, and suc-

eceded in introducing a gold standard. He was, however, unable to retain office and was succeeded, 1891, by I. Catargin. He translated some of

Shakespeare's plays into Roumanian. Carpaecio, Vittore (c. 1450-1522), Italian painter, born at Venice, of an old Venetian family. Little is known about his life, and his hirth is much disputed. He may be regarded as a forerunner of the finest Venetian masters. His shief works were painted between 1490 and 1519. He was certainly a pupil of Lazzaro Bastiani, rather than his master, as formerly heid, and he may have travelled with Gentile Bellini to Constantinople. His greatest works are at Venice; the series of pictures in St. Giorgio degli Schlavoni, brought so prominently to notice by Ruskin, was painted by order of the hospice of S. Giorgio from 1502-8. The 'Madonna and Child,' in the National Gallery, commonly attributed to C., may probably only be painted by members of his studio. See Life and Works by Molmenti and Ludwig, translated by R. H. Cust, 1907.

Carpathians. \mathbf{a} great monntain system in Central Europe, extending from Presburg to Orsova, onclosing Hungary and Transylvania in a vast crescent of 800 m. The Danube valley divides them from the Alps, and the March from Sllesia and the Moravian mountains. After forming the boundary between Hungary and Roumania, they turn S., cut by the Danubo, which flows in a picturesque gorgo between Bazias and Turn Severin. They then slope down to the Roumanian plain in heautiful wooded declivities, intersected by valieys of numerous rivers, fed by the high rainfall of the district. For the purpose of classification the whole system may be divided into two great groups, the Eastern and Western C. The Eastern C. stretch from the mouth of the Nera to the source of the Thoiss, scparating Austria from Roumania. The Western C., starting at the Theiss form the boundary between Hungary form the boundary between Hungary and Galleia, and terminate at Presburg. The chief groups of mountains are: Little C., Beskids, Central C., White Mta., Lomnitzer Spitzo, Eisthaier Spitze, and the High Tatra group, including the highest peak in the C., Gerlsdorfer, 8737 ft. Few mountains reach or pass into the snow line. There are no glaciers but relacial labor. Mearangen are hidden the glacial lakes, Meerangen, are hidden gold away in the snow-bound recesses at

formed by the Alata; Tursburg, be-tween Bucharest and Kronstadt; and Jablunka, between Presburg and Cracow. The C. form a watersbed for the Baltic and the Black Seas, the most important rivers rising there being the Dniester, Vistula, Theiss, Maros, and Szanos. Besides having more mineral wealth than any other mountain system of Europe, the region of the C. is rich and fertile, and wooded with oaks, beeches, evergreens, and firs. In the less civilised parts wild animals are found, including the wolf, bear, and lynx, and occasionally chamois and ihex. The lammergeier, or bearded vul-Geologically, ture, is found here. ture, is found here. Geologically, there are four zones of the C.: (1) The outer zone, lying towards Russia, of soft tertiary rock, containing salt and petroleum; (2) the Sandstone zone extending S.E. from the March; (3) the Crystalline zone of paleozole rocks; (4) the volcanic zone, contain-lng no active volcanoes, but subordinate mountains of volcanic origin. Gold, silver, quicksilver, copper, and iron are the chief minerals obtained.

Carpeaux, Jean Baptiste (1827-75), French seulptor, was horn at Valenclennes. His father was a mason, and during his early years the family was extremely poor. For two years he worked in a drawing school in Paris, and in 1854 entered the Ecolo des Beaux Arts. He was awarded the Grand Prix de Rome for bis statue of 'Hector with his Child, Astyanax.'
At Rome he felt the influence of
Michael Angelo, and became more
vigorous in style and passionate in
expression. He sent several works to expression. He sent several works to Paris which were exhibited in the Salon and gained medals. C. must be regarded as one of the influences which have helped to free modern sculpture from the weight of academic classicalism. Among bis chief works are: 'La Palombella,' 1856; 'Ncapolitan Fisherman,' 1858; 'Girl with a Shell,' 1869; 'Ugolino and his Children,' 1863; a 'Statue of the Prince Imperial,' 1866, after which he was made a chevalier of the Legion of Honour. In 1869 he executed one of Honour. In 1869 he executed one of the groups, Dancing, for the Opera House, which aroused much prejudice by its strong realism, vizour, and vitality. His last work, a foun-tain, is in the Avenue de L'Observa-toire, Paris. Many of his drawings and studies are at Valenciennes.

Orsova to Temeswar: Vulkar, in the only one C. in the flower, and the valley of the Schyl; Rottenthurm, in gynæccum is then said to be monothe S. Transylvanian Alps, in a gorge carpellary, but if more than one should be present it is polycarpellary; in any case the C. or Cs. are impor-tant parts of the female essential organ of the flower, and the aggregate number constitutes the gynæccum. When the Cs. of a polycarpellary pistil are united to one another the condition is syncarpous; when they are free from each other it is apocar-The fusion of Cs. affects the way in which the ovules are placed within the ovary, e.g. those which are folded on themselves first, and then fused by their adjacent margins, bear ovules in the centre, when the placentation is said to be axile. The placenta is a swollen cushion formed from the fused margins which are themselves called septa. The style is a prolonga-tion of the upper part of the C., and the stigma is the terminal knob borne at the apex of the style.

Carpentaria, Gulf of, is situated on the N. coast of Australia, between Capes Arnheim and York. The most important islands contained in it are Groote, Eylandt, and Wellesley. It receives the Mitchell, Flinders, Leichhardt, and Albert rivers. The coast Is low and swampy. It was named in 1623 by Carstenz, after Pieter Carpentier, governor-general of the

Dutch Indies.

Dutch Indies.
Carpenter, Allred John (1825-92),
an English physician, entered St.
Thomas's Hospital, 1847. He practised at Croydon, hecoming M.B.
(Lond.), 1855: M.D., 1859. C. was
Liberal M.P. for Reigate, 1885, and
N. Bristol, 1886. He was president of
the council of the British Medical
Association, 1878-81. He published
Principles and Practice of the School
of Hygiene, 1887.
Carpenter, George (1657-1732), an

Carpenter, George (1657-1732), aa English general, entered the army, 1672. He served in Ireland and Flanders, and in Spain as quarter-master-general to Peterborough, 1705. He commanded the cavalry at Almanza, 1707, at which hattle be was second in corumand. He

was second in command. He joined the Hanoverian party, defeating the Pretender at Preston. 1715. He was created baron, 1719: M.P. for Westminster, 1720-29. See Life of Lord G. Carpenter, 1736; and Diet. of Nat. Biog.

Carpenter, Dr. Lant (1780-1840). a Unitarian minister and theological writer here at Kidderminster. He

writer, born at Kidderminster. He

Univer-

Carpel, the term applied in botany assistant-master at school in Birto each transformed leaf found in the iningham, and subsequently librarian centre of the flower whose function it of the Liverpool Atheueum (1802-5), is to produce ovules. There may exist when he was chosen as Unitarian

minister of a boarding-school in tions, an old cathedral, and Exeter (1805-17). From 1817-29 he aqueduct of forty-eight arches. held a similar position in a school at chief manufactures are silk, chemi-Bristol. He was drowned off the coast cals, and earthenware. Pop. 10,500. of Leghorn. Dr. C. published numerous sermons and polemical tracts, and penter, in 1842.

Carpenter, Mary (1807-77), an Eng- with lish philanthropist, born at Exeter, daughter of Dr. Lant C., a Unitarian minister, and sister of Dr. W. B. C. father's boys'

iterest in poor

Dr. J. Tnekerman of Boston, and in 1835 she started a working and visiting society and a working and visiting society and later a ranged school with a night school in the poorest part of Bristol. The visit of the Hindu philanthropist, Rammohun Roy, 1833, aroused her sympathies with India, and the first of the improvement of the East was taken. of her journeys to the East was taken. 1866, where she initiated several reforms for women and children. She wrote many books embodying her schemes for the education of destitute children and those on the border of a criminal or vagrant life. Her book Jurenile Delinquents was instrumental in the passing of the Youthful Offenders Act, 1854. She died in Bristol. Sec Life by J. E. Carpenter, 1879.

Carpenter, William Benjamin (1813-S5), English naturalist, son of Dr. Lant C., born at Exeter. He graduated M.D. at Edinburgh, 1839, was made F.R.S. in 1844, gold medallist of the Royal Society, 1861, and was Fullerian professor of physiology at the Pearl Institution from 1845 the Royal Institution from 1845, being a most popular and admirable lecturer. His works juclude Principles of General and Comparative Physio-logy; Principles of Mental Physio-logy; The Microscope and its Revelations. He was registrar of the university of London, 1856-79. He died from burns caused by an accident while working.

Carpenter Bee, or Xylocopa, is so named from its habit of boring holes in dry timber and forming little cells in which to lay eggs. The partitions between the cells are made of the wood-dust fastened together with saliva. X. virginica, a N. American species, is as large as a humble

Carpentras, a tn. 16 m. N.E. of Avignon by rail, in the dept. of Vaucluse, France, which as Carpentor-

Carpentry may be defined as the art of working timber into various wrote: Unitarianism, the Doctrine of shapes with different varieties of the Gospel, 1809; Systematic Education (2 vols.), 1815, etc. His Memoirs support a weight or sustain a preswere edited by his son, R. L. Carsure. The difference between C. and joine-

ornar

of th eye as is that of a joiner, but is infinitely more necessary. All the products of the joiner's art to be found in any house could be removed therefrom without in any way affecting the utility of it, though the beauty of the bouse would of course be seriously impaired. The composition and resoinhibition of mechanical forces form the principles of the science of C., and the skilled carpenter must have either a practical or theoretical knowledge of such laws. It is herond the scope of this article to go into such principles, but some explanation may be given of the terms and general processes of C. Any assemblage of pieces of tim-ber connected together is called a 'frame.' The points of meeting of the pieces of timber in a frame are termed joints,' and one of the first requisites in C. is a knowledge of the various ways of joining pieces of timber so as to stand different strains and pressures. When one piece of timber is not long enough, it is joined to another piece in the same direction by When one piece of timber is various methods; this is called technically 'lengthening' a beam. The roughest method of doing this is by fishing: the ends of the beams are placed together, and a piece of tim-her is placed on each side and secured by bolts passed through the whole. Another method is 'halving' the beams so that they present a level face when joined together, and can be united by means of bolts. 'Scarf-joints' are employed when it is necessary to maintain the same depth and width throughout the beam. In this method a part of the thickness of the timber is cut away from each beam; the parts cut away are on opposite sides, and correspond to each other, so that the beams will fit into each other, and can be bolted. Different varieties of scarf-joints are employed where the timber is subjected to compression, tension, or to a bending strain, etc. Hard wood pieces called 'keys' are meerted into the holes of Vaucluse, France, which as compressing a scarf-joint before the Bonnas was flourishing a scarf-joint before Casar's invasion of Ganl. Its to compress the beams closely to-before Casar's invasion of Ganl. Its gether; they must not be driven in the compression of the wood will. century legate's palace, a 3rd-century too lard or the fibres of the wood will triumphal arch, ancient fortifica- be strained. In bolting together scarfone piece of timber meets another without crossing it. A hole called a mortise is made in one piece of timber, and a projecting portion called a 'tenon' is left on the other. The tenon is driven into the mortise and secured in position by glue, or hy a pin penetrating it laterally through the side of the mortised beam, or by an external iron strap which passes round the beam and is riveted in the other, the beam which has the When the two pieces of timher do not meet each other at right angles, modifications of the mortisc and tenon joint are adopted, so that a bearing surface may be provided which is at right angles to the direction of the thrust exercised by the entering timber. Other operations performed when timbers cross each other are 'notching,' cogging,' and 'housing;' these joints must be these joints much by bolts or straps. strengthened by When greater strength is required than a single beam will give, the pro-cesses of 'building' and 'trussing' heams are used. Building beams is comblning two or more beams in depth so as to have the same effect as one large heam; the heam is cut in two and supported with cross-beams in the operation of trussing. The framework by which the covering of a building is supported is known as the roof. The simplest form of roof consists of a series of pieces of timber ing joists do not cross with their one ends rest walls and their other en at a ridge pole. These rafters, and their lower These are connected by a piece of timber " called a tie, as otherwise this framework would thrust out the roof when loaded with the weight of the cover-ing. The whole frame is known as a conple; such a simple form of roof, however, can only be used when the building is less than 20 ft. long. When the tie is longer than that, it is apt to sag in the middle, and a fourth piece, called a 'king-post,' is added to unite it directly with the apex of the rafters. Cross-pieces, called struts, are Cross-pieces, added if the rafters are liable to sag: their centres are thus united to the centre of the tie. If the span is longer than about 30 ft, it is inadvisable to leave the rafters unsupported for half their length, and the following formaeach rafter is joined to the tie by a piece which falls perpendicularly on the rafters are also joined to each

joints side plates of iron are used to them thus form a parallelogram with protect the wood. Another mode of the rafters. The horizontal piece is joining timber is by mortise and called a collar-beam, and the sustemen, which is employed wherever pending pieces queen-posts. The whole frame is known as a trnss; the trussed frames are placed at intervals of about 10 ft. They support horizontal pieces known as purlins, which run the whole length of the roof, and support the common rafters and their covering. All roofs, of whatever size, are founded on the above models, unless it is not desired that there should be a tie-heam, as in churches, etc. The walls are then made stronger or the roof principals are modified in shape to meet the greater horizontal pressure. The framing of timber supporting the floor of the room above and the ceiling of the room helow is called the 'naked flooring;' there are three main kinds of flooring-single, double, and framed. Single flooring consists of one series of joists which stretch right across from wall to wall The flooring without any support. The flooring boards are laid on the top of these joists, and to the under side is affixed the ceiling of the lower story. Double flooring has a middle series of binding joists, resting on the walls in the same way as the joists of single flooring; above these joists are the hridging joists and below are the ceiling joists. Both these are notched into the main joists where they cross them, and support respectively the floor above and the ceiling below. Framed flooring has beams in addition to the binding, Framed flooring bridging, and ceiling joists; the bindthe whole hnt are framed into itervals. A donble plaster is occasion-

en sound: the most

floors ensure evenness of floor and ceiling, and single floors give strength combined with lightness where the spans are not very great. If the span for a single floor execcds 8 or 9 ft., the joists should he strutted together to prevent twisting. Rough wooden profiles of the cornices of a room are made, and afterwards lattled round and plastered. This process is known as 'cornice bracketing.' The frames of timber which are used to divide the upper stories of a building into rooms are called partitions. When these are not required to hear any heavy tion is substituted: the eentre of weight, they are formed as follows: A piece of timber, called a 'sill,' is ts. The

other by a piece which runs parallel pieces, and above the tie. The perpendiculars known as 'quarters,' with which the and the section of the tie enclosed by space hetween is occupied. If the

partition has to support any weight Beauvais, 1664. In 1685, with the it has to be trussed with posts and revocation of the Edict of Nantes, braces, and brickwork or concrete most of the weavers—for the majority may be used to fill up the space. When a staircase is made of wood, the pieces of timber upon which it rests, and which form the framework, arc known as the carriage. They are steps should have; they are called technically 'rough strings.' A piece of timber, which projects horizontally from the upper level to which the staircase leads, forms the support for the 'rough strings' and also for the joists of the landing; this is called a 'pitching' or 'apron' picce. When bridges or vaults are in course of construction, curved frames are needed to support the arch stones; these frames are known as 'centres,' The ribs of which the centres are com-posed are built of a series of short posed are built of a series of short timbers shaped to the curve required; they are placed about 6 ft. apart, and are connected by horizontal ties as well as by diagonal bracing. The centres serve to support the narrow boards which carry the stones of the arch. When the arch is properly keyed, the centres are 'struck' gradually so that the arch takes its proper bearing slowly. Staging is built up of two rows of standards or proper bearing slowly. Staging is built up of two rows of standards, or large square timbers, resting on a 'sill' of timber on the ground.
Longitudinal beams at the top support a piatform, on which a small railway may run. If the staging is large and required for a travelling erane, it is known as a 'gantry.'

Carpet (It. carpita, a coarse cloth,

from Lat. carpere, to pluck), a heavy woven fabric, used as a covering on floors. They were first made and used in the East, where the custom of sitting cross-legged on the floor and of praying in a low, crouching position necessitated tho use of some soft covering to the floor. When Cs. were first brought to England, they wore used as a rich covering for beds and tables, straw, dried rushes, or sand being spread over the floors. The use of Cs. as table-covers originated the expression 'ou the carpet,' meaning on the council chamber, applied to a question under discussion. When Cs. were first spread over floors they were regarded as a great luxury, and only in keeping with a lady's boudoir. Hand-woven tapestries were commonly made during the middle ages In convents and by ladies of rank, and were sometimes spread over the floors. The industry first developed in France, whore a factory was estab-lished in 1607 at the Louvre by King as in worsted cloth.

Arminsler carpet.—It was first established in Chaillot, 1627, and at

were Protestants-fled across the were Protestante—Incl. across too Channel, and thus the industry was started in England. The Flemish weavers first settled in Bristol, but the knowledge of the art soon spread two in number, and are inclined at to northern towns, and notably to the angle which it is desired that the Kidderminster, Dewsbury, and Glasgow. The chief varieties of Cs. are the Brussels, Wilton, Persian, Tur-

key, Kidderminster, and Axminster.

Brussels carpet.—This C. is composed of a mixture of linen and worsted, the cloth or reticulated part of the structure being entirely of linen, and the worsted only showing on the upper surface and making the pattern. Through the coarse linen pattern. Through the coarse linen fabric, worsted thread of different colours is drawn and held in loops over the wires. When the work is complete, the wires are removed and the remaining loops give a soft pile and make the figured surface of the C Brussel Cs. were introduced into Kiderminster from Tournay in 1745.

Wilton carpet or velvet pile.—This is made with lower lever warms and the pile of the control of the control

made with longer loops, woven over sharp wires, which, when withdrawn, cut the worsted, leaving a full velvety pile. The C. may afterwards be sheared to even the surface.

Persian carpets.—This manufacture dates from very early times. They are thicker and softer than ordinary carnets, are of great durability, and arc renowned for their beautiful deare renowned for their beautiful designs. They are made by knotting woollen yarn on warp threads, the tufts thus formed being firmly held in place by the woof yarn. Old Persian Cs. are highly prized, and are

Turkey carpets.—These are somewhat similar to Persian Cs., being made in the same fashion, but their designs are stiffer and more geo-metrical in character. The colouring is very rich. The industry flourisbes chiefly at Ushak in Asia Minor; Cs. of the same kind were formerly made at Axmiuster (1755-1835), and are still made at Wilton.

Kidderminster carpet. — This is made in the greatest quantities in Scotland and Yorkshire, and is the oldest kind of machine-made C. It is made by the intersection of two or more cloths of different colours, woven in stripes of different shades. They are made in layers, and are called accordingly two-ply or three-ply. Tho back of the C, is of exactly the same pattern as the face-side, but the colours are reversed. There is no the colours are reversed. There is no pile, the yarn lying flat on the surface,

in 1755. It is usually made to order, A drawing room hero, stay at-home being made in one piece according to the dimensions of the room for which it is required. They resemble Turkey Cs., and are made in tufts of coloured worsted or woollen tied under the threads being warp, \mathbf{t} he linen rammed down and conecaled. As is the case with Turkey Cs., the diffi-As is the case with Turkey Cs., the diffi-culty lies in changing the colours so as to form the required pattern. In 1839 Mr. Templeton of Glasgow patented a method of making Cs. with a chenille. The chenille is woven on a separate loom, cut into strips and bound into tufts, and is then woven into the C, being used as the weft thread. Royal Arminsters do not require the chenille to be woven separately: the tufts are out by separately; the tufts are cut by machinery, and are threaded into the C. by the linen west.

Seals of manufacture.—Brussels and velvet pile Cs. are largely made at Kidderminster, and also at Durham and Habfax. Kidderminster come from Kilmarnock and Bannockburn in Scotland, and from Dewshury and other places in Yorkshire. Only a small quantity is made in Kidder-minster itself. The finest Persian Cs. are made at Kurdistan. The patent chenille Axminsters are made to a large extent in Glasgow. In the United States, Cs. are chiefly manufactured in Philadelphia, where the first factory was established in 1791, and in Lowell. The most famous French Cs. are the Savonnerie, made in Paris, and the Aubusson Cs.

Consult Martin, History of the Oriental Carpels before 1800, 1906-8; Hendley, Asian Carpets, 1905; and The History and Manufacture of

Floor-coverings, New York, 1899. Carpet Bedding, in gardening the

thrift, echeverias, saxifrages, or box, so arranged as to resemble a figured carpet. The patterns are usually geometrical designs, but sometimes birds, butterflies, or other objects are represented. This style is not so popular at present as it was some fifty years ago, owing to its extreme formality (ef. Dutch gardens with clipped box or yew-trees). The soil is banked up for the dwarf-plants to bring them to the same level as the taller growers, and present an even surface throughout.

Carpet Knight, originally Knight of the Carpet, or Green Cloth, as distinguished from one dubbed in the battlefield. Later applied contemptuously to knights who enjoy ease and inxury, shirking a soldier's hardships.

A drawing-room hero, stay-at-hone soldier, or an efferminate person.
Carpi: 1. Com. and tn., prov. of Modena, Emilia, Italy, 9 m. N.N.E. of Modena. It has a eastle, two cathedrals, and a fine Renaissance church of the 15th century, also tho bishop's palace. Silk industries thrive. Pop. (commune) 23,000. 2. Village on R. Adige, 28 m. from Verona, where Prince Eugene defeated the French in 1701 1701.

Carpi, Ugo da (1450-1523), Italiaa painter and engraver, claimed to have discovered the art of chiaroscuro painting, but recent research has proved that certain Germans had practised the art before his day. C. used three blocks in his famous engravings after Raphael.

Carpin, a tn. of Scotland, in the co. of Lanarkshire. Its chief industry is mining. Pop. about 2000.

Carpineto, a tu. of Italy, prov. of Rome, about 37 m. from cap. Birth-place of Pope Leo XIII. (1810-1903). Pop. 4800

Carpini, a tn. of Italy, in the prov. of Foggia, 22 m. N.E. of San Severo.

Pop. 7000.

Carpini, Johannes de Piano, born in Umbria, W. Italy, 1220, was a Franclscan traveller. He was sent to China by Pope Innocent IV. at the head of an embassy to negotiate with the Mogul powers, and to use his diplomacy to turn them from their avowed Intention of devastating He set out from Lyons in Europe. April of 1245, and returned the following summer. He had a genius for recounting his adventures, and Hakluyt has incorporated them in his Navigations and Discoveries,

Carpinus, a genus of Betulacere which is known in Britain as the name of a certain formal arrange- hornbeam. C. betulus, the common ment of beds, adorned chiefly with hornbeam, is common in copses, and is frequently pollarded by farmers; it is used on the Continent as fuel and for making handles of tools, but is of little value as timber. The flowers are in male and female catkins, and the fruit is a one-seeded nut.

Carpobalsamum, the name given both to the dried fruit and to the oil obtained from the fruit of Commiphora opobalsamum, a speeles of Burseracete which yields balm of Gilead. The oil is aromatic and volatile, and should be used while fresh or it becomes inert.

Carpocrates (Καρποκράτης, οτ Κάρπο celcbrated Alexandrian a Gnostic, probably of Hadrian's reign (A.D. 117-38), who flourished in the 2nd century and founded the sect of Carpocratians, who existed as late as the 6th century. They were avowed eclectics, taught that Christ was a human being of pre-eminent goodness, and that the world was created. Gazelle, 1873. C. organised various by angels. The Supreme Deity was picture exhibitions. He is director the Monas. They believed in pre- and one of the founders of the New

Carpology (Gk. καρπός, fruit, λόγος, word), the name given to the division of hotany which comprehends all that relates to the structure

of the fruit.

Carpophore (Gk. flower, Kapuos. feetr, to bear), a hotanical term used to indicate the prolonged axis of a flower which passes up between the carpels to the top, and which serves to attach the carpels to the plant when they have split apart, e.g. in a siliqua. Examples occur in the Um-belliteræ, Geraniaceæ, and Rosaceæ.

the elector of Saxony, and author of Practica nova rerum criminalium. 1635; Definitiones forenses, 1668, and other works. See Lange, Predigt bei der Leichen-Bestattung B. Carpovii. 1667; Kromayer, Programma in B. Carpzovii funere, 1666.

Carpzov, Johann Benedict (1639-99), son of preceding, distinguished Orientalist; professor of Hebrew at Lelpzig. Wrote treatises on sacred philology. See Jöcher, Allgemeines Geteinen. Lexikon; Crprian, Programma in funere J. B. Carpzorii, 1699; Crell, Oratio F. B. Carpzorii Memoria Allgemeines Gelehrten-

Carr, John (1721-1807), an architect. called C. of York, born at Horbury. uear Wakefield. He made his reputation as an architect of the Palladian School, the court-house, castle, and gaol at York. Newark Town Hall and the parish church of Horbury were built according to his designs. Though of humble origin, he was twice mayor of York, and died worth £150,000.

Carr, Joseph William Comyns, English or carting the ca

fish art critic and dramatist, born 1849; educated at London University; 16), a Spanish priest, born in Navarre, barrister of Inner Temple, 1872. He was one of the cditors of the Acathemy, Saturday Review, and Exhaustre, founder and late editor of Council of Treut, 1546, and he also the English Illustrated Magazine, sat in that of 1551. He accompanied He became English editor of L'Ari, 1875, and art critic on the Pall Mall Queen Mary's confessor, working

the Monas. They believed in pre- and one of the founders of the New existence of the soul, and worshipped Gallery, Regent Street, where many Zoroaster, Pythagoras. Plato, and of Burne-Jones's works were first others, as well as Christ, as beneface exhibited. Among his publications tors of mankind. See Miliman, History are: Drawings by the Old Masters, of Christianity, ii.; Matter, Du 1871; The Abbey Church of St. Albars, 1878; Examples of Conformation (Christianity, Christianity, Albars, 1878; Examples of Conformation (Christianity, Albars, 1878; Examples of Conformation). temporary Art; Essays on Art; and Papers on Art, 1883-4: ModernLandscape. As a dramatist he adapted Hardy's Far from the Madding Crowd, 1882; was joint-author of Called 1884; Dark Days; Boys Back. Together; In the Days of the Duke. C. also wrote A Fireside Hamlet; The United Pair; Forgiveness; King Arthur; Some Eminent Victorians, and has adapted many plays for the stage. Managing director of Lyceum. 1902-4.

bellifere, Geranjaecæ, and Rosacæ.

Carr (or Ker), Robert, Earl of Carpus (Gk. καρπός, wrist), in Somerset (d. 1645), politician, of Scotnatomy, the series of hones between tish birth, worthless favonrite of the forearm and hand. In man there James I. of England. In 1603 he are eight small hones in two irregular accompanied James to England as rows of four. The upper row articupage. In 1604 C. broke his arm in a later with the Target Hand and the series of the tates with the radius, the lower with tilting-match before the king. His the metacarpal bones of the hand, appearance pleased James, who sub-Rndiments of carpal bones are found stituted a favourite for a constitutional adviser, and toaded him with carpzov, Benedict (1595-1666), a honours. Knighted 1607; Viscount most able German jurisconsult, son of B. C. (d. 1624). Privy-councillor to the electron of Savora and author of the clean of Savora and author of the clean of Savora and author of the council of the clean of Savora and author of the clean of the clean of the council of the clean of the cl procuring her divorce from her first husband. Somerset's influence hegan to wane before that of Villiers. In 1615 he was implicated in his wife's poisoning of Sir Thomas Overhury (1613). Bacon conducted the prosecution as attorney-general; both earl and countess were condemned to death, but received the royal pardon. See Gardiner, History of England, ii. 1889; Dict. of Nat. Biog., ix.; Amo. The Great Over of Poisoning, 1846.

Carraci, see CARACCI.

Carrageen Moss, otherwise known as Irish or Sea-Moss, the edible sea-weed technically called Chondrus crispus, found on rocky shores of N. Europe and N. America. It is reddishbrown in colour, two to twelve inches long, and repeatedly forked. After it has been collected it is bleached in the sun and dried, when it is ready to he When boiled in fresh water or sold. milk it yields a pleasaut drink, or can be made into jelly. It is also used for making size, stuffing mattresses, and feeding cattle.

Carranza, Bartolomaeus de (1503-

cealously to establish Catholicism. In 1830 C. founded the National Chosen Archbishop of Toledo ahout with Thiers and Mignet, the organ of 1556, he was accused of heresy by the Liberal opposition, becoming eblef Inquisition, nominally owing to his editor after the revolution of July. Comentarios sobre el Calechismo He spoke feariessly against the Cristiano, 1558, and spent the rest of his life in prison. See Prescott, dignant protest at the execution of History of Philip II. (vols. i and ii.); Laugwitz, Life, 1870; Salazar de Nendoza, Vida y Suessos de B. de Party, he was imprisoned by Loude Philliume's government for his wife.

nendoza, vada y Sucesos de B. de Corronza y Miranda, 1788.
Carrara, a tn. in W. Italy, on the Avenza, is famous for its marble quarries, which have been worked for over 2000 years. The snpply seems inexhaustiblo, though much has been wasted by the use of primitive machinery, 500,000 tons being quarried to produce 150,000 tons extract the sucessian statement of the suces machinery, 500,000 tons being quarried to produce 150,000 tons exported. The marble used for sculpture is peculiarly white and flawless and of great durability, but few of the numerous quarries produce this variety. Nearly all the surrounding heights are of marble, and mountain activate are taken half way up the railways aro taken half way up the mountain sides to serve the quarries. The material for building the Pantheon of Rome was taken from C. The town contains many fine marble churches and an academy for sculp-ture, founded by Napoleon. There is also a cathedral begun in imitation of that of Pisa, but unfinished. C. is quite near to the site of ancient Luna, a celebrated Etrurian city. It is the seat of a district court.

Carrara, Da, the name of an Italian family whose history is united with that of Padua and the neighbouring provinces during the middle ages. They appear to have been of Longo-

bard extraction :-

Marsilio da Carrara (d. 1338), re-belled against and was defeated by Cane della Scala, lord of Verona, but always maintained his independence.

Francisco da Carora (d. 1393), became lord of Padua in 1355. He was forced to abdicate by the Venctians in 1388, and died in imprisonment in the castle of St. Colomban.

Froncisco da Corrara (d. 1404), succeeded in recovering Padua from the Venetians in 1390, but was de-

carrel, Nicolas Armand (1800-36), a famous French journalist and pubjoined the volunteers

Spanish Liberals. prisoner, but released

l'Histoire de la Grèce moderne, Ré-sumé de l'Histoire d'Ecosse, Histoire wagnon), a means of carrying; any de la contre-révolution d'Angteterre.

as well as leader, of the popular party, he was imprisoned by Louis Phllippe's government for his writ-Philippe's government for his which here ings. He was killed in a duel by the editor of the Presse. A statue was creeted to him, 1887, at Rouen. See Nisard's article in Revue des Deur Mondes, Oct. 1, 1837; Boelscher, Zurei Republikoner, 1850; Nouvelle Biographie Générale. Carrel's Œures Politiques et Littéroires (5 vols) were Biographie Générole. Carrel's Œurres Politiques et Littéroires (5 vols.) were edited by Littré and Paulin, 1857-8. Carrer, Luigi (1801-50), an Italian lyric poet and scholar, native of Venice. He gave up the law for literature, becoming professor of philosophy at Padua, 1830; secretary of the Istitúto Venets, professor of belles-lettres in the Scuolo Tecnica, and finally director of the Venice Museo Cover. His prose works in

Musco Correr. His prose works in-elude a study of Goldoni's life and writings, and a life of Foscojo, whose verse influenced him greatly. C. planned a Biblioteca Classica of the best Italian writers in 100 vols., but only twenty seven appeared. These were highly praised. His poems included ldylls, enigrams, sonnets, hymns, and tragedics, but the best hymns, and tragedies, but the best are ballads (Introduced from Germany) and odes. These placed him in the first rank of Italian lyrists. Postry appeared in 1832: Prose and Poetry, 1837; Ballate, 1838; Apolophi, 1841: Odi potitichi e sonetti, 1868. His famous L'anetto di sette gemme (1838) told in poetical form the history and customs of Venice. In 1836-8 C. superintended the publication of Il Novellista Contemporareo Itationo e Stroniero. For his Life consult Veludo, 1851; Venanzio, 1855; Crespan, Detla Vila e delle Lettere di L. Correr, 1869; Sartorio, Lettere di L. Correr, 1869; Sartorio, L. Carrer, 1900.

Carrhæ, an anct. city of Mesopo-tamia, about 25 m. from Edessa, the Haran of the Bible and Assyrian Inscriptions. The crushing defeat of licist. On the outbreak of war in Crassus by the Parthians in 53 B.c., Spain (1823), he resigned his position when the Roman standards were lost, of sub-licutenant in the army and is frequently mentioned in classic

> . an Island of the British nd the largest of the being 8 m. long, and : 1. wide. Cotton Is grown. on the W. coast, is the

but especially passengers, by road or; fessional purposes. £3 18s. is the duty rail. Hence railway-carriage, hack- for a haous other compounds. Cs. are structures on two or more wheels, and vary greatly in size and shape. Possibly they were first developed from the Egyptian sledges and rollers, used the Egyptian sleages and ronors, correction conveying heavy loads. Charlots were known also to the ancient translites Greeks, and Romans, chariot-racing being a favourite sport at the public games of Greece and Rome. The covered C. of to-day dates from about the 15th century. In 1555 the first English C. (excluding the war-chariots of the ancient Britons) was made by Ripon for the Earl of Rutland. By the 17th century they was introduced in London in 1834.
Other two-wheeled Cs. are the standard house the standard house here the standard house the standard house in 1834. hopo, tilbury, gig, and dog-cart. In the 18th century many improvements were made, the body was suspended on straps, attached later to -springs. The use of the private four-wheeled C. drawn by one or more horses (often the 'earriage and pair, with two horses) was especially marked during the Victorian era. The brougham was introduced in 1839, other types being the landau, victoria, and four-in-hand. Open four-wireled Cs. are the phaeton, waggenette, and brake. The drag and the omnibus have seats both outside and in. Cs. have various different special names in different parts of the world, but the word is commonly used in England of the four-wheeled, private, horse-drawn vehicle. All horsed convoyances are being rapidly replaced now taxi-cabs, or

See Burgess, ogeh-Building, of Coach-Building, 1877; works by Ware (1875) and Stratton (1878). See also CAB, CART, COACH.

Carriage-building, see COACH-DUILD-

Carriage Dog, see DALMATIAN DOG. Carriage Licences. The rates for local taxation licences in respect of Cs., motors, or motor-drawn vehicles are as follows: for horse-drawn or mule-drawn Cs. with four or more wheels, £2 2s. if to be drawn by two or more horses, £1 1s. if by one horse only: €a. with less than four wheels and hackney Cs. 15s. The rates for more traces for motors are graduated according to the horse-power of the motor car, and range from £2 2s. for a car not exceeding 64 h.p. up to £42, where the car exceeds 60 h.p., with an exemption of half the duty in the case of cars used by medical men for pro-

2 tons weight: £2 17s. . it över 2 tons; and 15s. not exceeding 1 ton; exceeding 5 tons, 15s., there being higher light becometive duty to be taken into consideration in the case of heavy vehicles.

Carrick is one of the three divisions of Ayrshire, Scotland. Earl of C. is the Princo of Wales' title as Steward

of Scotland.

Carrick, Thomas Heathfield (1802-75), English miniaturist, born near Carlisle, educated at the grammar school there; a self-taught artist. He neglected his chemist's business for painting. In 1836 he moved to Newcastic; 1839 to London. From exhibited annually eight 1841-66 miniatures. Among the most fanious are those of Carlyle, Sir R. Peel, Rogers, Wordsworth, Longfellew, Charles Kean, Farren. Macready, Daniel O'Connell, and Robert Owen. Charles In 1845 awarded a medal for his invention of painting miniatures on marble; awarded the Turner annuity by Royal Academy about 1868. See Royal Academy Catalogues (1841-66).

Carrickfergus, a scaport tn. and parl bor, in co. Antrim, Ireland, is situated on Belfast Lough. William III. landed here just before the battio of the Boyne. The eastie of C., dating back to the 12th century is still used as a fortress. Flax splinning and oyster fishery are the chlof industries.

Pop. of town, 4500; borough, 9000. Carrickmacross, a market tn. of Ireland in the co. of Monaghan, with manufactures of leather and boots,

and a trade in grain. Pop. 2000. Carrick-on-Shannon, a river port and market tn. of Ireland, situated on the Shannen in the ee. of Leitrim, 37 m. S.E. of Sligo. There is trade in shipping, dairy produce, and corn. Pop. 2000.

Carrick-on-Suir, a tn. in co. Tip-perary, Ireland, is connected with Carrickbeg in Waterford by a bridge over the Suir. It has an ancient castle and parish church. Woollen manufacture is the chief industry

Pop. 5400. Carrier, Common, one who under-takes for hire to carry goods or passengers from one place to another either by land or water. He is dis-tinguished from the 'private C.' by being ready to accommodate the public generally, and has different responsibilities in law. Examples of land Cs. are stage-eoach proprictors, railway companies, waggoners, firms such as Carter Paterson, Pickford, Bean, and others; carriers by water are owners of steamships, ferry-boats, and the like. A common C. of goods

taken for his charges. He is in the memory, born nt Yolai. Elected to eyes of the law responsible for all acts the Convention, 1792, he helped to liability be limited by a special con- voted for the death of the king, detract, he is responsible for all goods entrusted to him until they have heen delivered, and must make good any loss of damage occurring through any cause except 'the act of God, or the public enemy '(in the narrowest signification). These stringent rules exist to guard the interests of employers, and prevent their being entirely at the mercy of the C. If goods are to he warehoused with Cs. for a time previous to carriage, extraordinary liability is not locurred by
them until the actual time of carriage,
though of course ordinary care and
precautions must he taken. In England if a number of Cs. are engaged
in the transfer of goods, the first is
held liable as insurer, as being the
party with whom the contract was
originally made. Personal delivery is
expected of land Cs. Water Cs. can
only take goods to the wharf, but
notice must be given of the vessel's
arrival and discharge of cargo. A for a time previous to carriage, extraarrival and discharge of cargo. special contract may be entered upon for the carriage of goods, but no C. can exempt himself from liability for goods not mentioned in the Carriers Act by a mere printed notice that he refuses to hold himself responsible. A definite contract signed by the em-ployer is essential before the C. can shake off his responsibilities as insurer. The Carriers Act of 1830 granted certain exemptions from liability to certain exemptions from hability to common Cs. by land. A ship owner's babilities are much the same, except as limited by the Merchants Shipping Act, 1894, and by the contract of affreightment. A railway is not counted as a 'common C.' Hence, in the event of accidents, the company is only liable if negligence can be proved. By the Rnilway and Canal Traffic Act of 1854 biblility as to animals was limited. Passenger Cs. are not responsible for mishaps caused disease. They are responsible for all ner Dom als Ireic acuscide Kurene, baggage entrusted to their care, as 1843; Abālard und Heloise, 1844; eommon Cs. of goods. See Angell, On Die Religionen in ihrem Begriff, 1841; Common Carriers; Redfield, On Geschmack und Gewissen, 1882; Radiways; Sedgwick or Mayne, On Kunst und Kulturentwickelung... Damages; Macnamara, Law of 1863-74 (5 vols.): Die Poesie, ihr

must take nny except specially Carriers, 1908; Hutchinson, Treatise dangerous articles to the place to on the Law of Carriers, 1891; Ray's which he professes to carry goods. A Negligence of Imposed Duties, Carriers, 1891; Ray's carriers of Imposed Duties, Carriers of Imposed Duties riers of Freight, 1895, Carriers of

made

Passengers, 1892.

Carrier, Jean Baptiste (1756-94),

wise the C. has a lien on the goods a French revolutionist of infamous of his employees. Also, unless his form the Revolutionary Tribunal, manded the arrest of the Duke of Orleans, and assisted in overthrowing the Girondists. C. was sent to Nantes, 1793, to repress the civil war started by priests and Royalists io La Veodée. He massacred over 16.000 Vendeau and other prisoners without trial, sparing neither women nor children. Many were crowded into boats and sunk in the R. Loire ('Republican baptism'); others were shot down or guillotined. After Robesplerre's fall, justice was demanded against this fiendish Jacobin, and after trial by the Paris tribunal he was guillotined. See De Barante, Mélanges; Nouvelle Biographie Générale.

Carrière, Eugène Anatole (1849-1906), French genre painter, born at Gournay-sur-Marne, lived at Paris. Pupil of Cabanci; medal, 3rd class, 1885. Called by Edmond de Gon-court the modern Madenna painter. tor his frequent treatment of mater-nity. Among his works are the 'Young Mother,' 1879 (at Avignou); 'The Nymph Echo,' 1880; 'Kiss of Innocence,' 1882; 'Two Friends;' 'Marguerite,' 1884; 'Sick Infant' (at Montargis); 'The Favourite,' 1885; 'Théâtre de Belleville;' 'Christ on the Cross,' 1897. His famous 'Maternity,' 1892, is in the Luxembourg, Paris. His portraits of Daudet, De Goncourt. Anatole for his frequent treatment of mater-Daudet, De Goncourt, Anatole France, Metchulkov, and others are also remarkably good. There is a decorative panel at the Sorbonne by C., 1898, and in the Hotel de Ville, Paris. See The Studio, 1896.

Carrière, Moritz (1817-95), a Ger. philosopher and writer on resthetics: studied at Giessen, Göttingen, Berlin. and in Italy: 1849 professor of philosophy at Giessen; at Munich, 1853. proved. By the Rullway and Canal sophy at Glessen; at Munich, 1853. Traffic Act of 1854 bability as to At first a Hegelian, he later followed animals was limited. Passenger Cs. are not responsible for mishaps caused by the passenger's contributory negther an ended high as an art critic by the passenger's contributory negther and provided high as an art critic and by the passenger's contributory negther and provided high as an art critic passenger. They must accept as passengers all who comply with their latin); Die philosophische Wellans rules (as to tickets, use of cars, etc.), chauung der Reformationsecit, 1847; except people of disorderly helaviour pie letzte Nacht der Girondisten, 1849 or those who have some contractour (in poeul). Nichteil: 1850. or those who have some contagious (n poem); Asthetik, 1859; Der Köldisease. They are responsible for all ner Dom als freie deutsche Kirche.

Wesen und ihre Formen, 1884 (2nd on the plains in the West till 1868. ed.). Sec Gesammelte Werke, 1886-91 (13 vols.).

Carrier Pigeon, a variety of the family Columbidee, and is remarkable for the huge white wattle round the eyes and at the base of the beak. is essentially a fancy bird, and the messenger pigeon proper is called the homer.

New ' burb of ! South

Wales. Large foundry and engineering works. Pop. about 2600.

Carrington, Charles Robert Wynn-Carrington, first Earl, joint-heredi- (1826-75), English astronomer, edutary Lord Great Chamberlain of Eng-cated at Cambridge; from 1849-52 land. b. 1843; educated at Eton and Cambridge. M.P. for High Wycombe, 1865-8; captain of the Royal Body-guard, 1881-5; governor of New South Wales, 1885-90. Created an Earl, 1895; from 1892-5 Lord 1895; Chamberlain the Household. of Chairman of the National Liberal Club, and an energetic member of the L.C.C. Chosen ambassador, 1901. to announce King Edward's accession to foreign sovereigns. President o Board of Agriculturo since the Campbell - Bannerman's administratlon, 1905.

Carrington, Sir Frederick, Major-General, English soldier, b. 1844, edu-cated at Chelteniam College, entered the army in the 24th Regiment, 1864. He commanded the Light Horso in the Transkel War, 1877-8: led the colonial forces against the Sekukuni in the Transvaal, 1878-9; and in the Basuto War, 1881. Commanded the nativo jovies in the Zulu rebellion, and was commandant of Beehmanaland police, 1893; becoming also military adviser to the High Commissioner in the Matabele War. In the South African War (1899 - 1902) he commanded the Rhodesian Field Force, helping with Mahon to raise the siege of Mafeking, 1900. K.C.B., 1897; commanded infantry at Gibraltar, 1895-99.

Carrington, Henry Beebee, Americal soldier and military historian, born in Connecticut, 1824, graduated at Yale, 1845, studied law at Yale Law School, 1847. Professor in New Haven Collegiate Institute, 1848-61; professor law in Collembra Odic practised law in Columbus, Ohio. practised law in Columbia, Onio.

1857 on the staff of Governor Chase, drawn by oxen, used by the mediaval helped to organise the state militia. republies of Italy to earry their He crushed various Indian risings. banner into battle. On a rectangular Atthe opening of the Civil War C. was platform, painted red, was set the colonel of the colonel of the

Infantry, 1861, s adler-general of

In 1869 professor of military science in Wabash College; 1890 took de-tailed eensus of the Six Nations and Cherokees. the Life-member of American Historical Association, and trustee of Marietta College. Among his many works are: American Classics; Russia as a Nation, 1849; Absaraka, Land of Massacre . . .:
History of the Battles of the American Revolution, 1876; The Washington Obelish and its Voices, 1887; Washington the Soldier; Lafayette and

American Independence. Carrington. Richard Christopher observer at Durham University. After 1852 he conducted various private observations (especially of the minor planets, fixed stars, and the sun), mostly at his private ob-servatory at Redhill, near Reigate, Surrey. Secretary of Royal Astro-nomical Society, 1857-62; F.R.S. 1860. He published Catalogue of 3735 Circumpolar Stars, 1857; and Observations of the Spots on the Sun. which greatly influenced the study of

solar physics.

Carrion Crow, or Corvus corone, a British species of Corvidæ, and is elosely connected with C. cornix, the hooded erow. In S. Amorica and the United States the name is given to Catharista atratus, tho black vulturo, a species of Cathartide which greatly resombles the turkey-buzzard. colour of this bird is black, and its naked head is also dark of huc. Both species act as seavengers, but the former will also attack young living animals.

Carrion Flowers are those which attract short-tongued files by means of their meat-like appearance or their footld smell and so become pollinated. Two such species are Amorphophaltus Titanum and Arum macutatum, both belonging to the order Araeee. They belonging to the order Aracem. both emit a very disagreeable odonr, and the former is of a red and yellow colour which serves as an additional attraction. Tho genus Stapetia, which belongs to the Aselepiadaeere, has the same property to induce flies to fertilise its flowers, and the flowers themselves are of a dark red colour.

Carroccio, a large war-eliariot

priests held services before battle. was surrounded by the bravest posed the 'Sons of Liberty,' com-posed the district of Indiana, also both as a rallying-point, and as the Rocky Mts. district. After the end of palladium of the eity's honour. Its thewar he joined his regiment, serving eapture was considered the deepest entristed to the care of some family who had rendered great services to the republic. The Scots at the 'Battle of the Standard' (Northallerton), 1138, followed the Italian custom. See Villani, Chronache, vi. 1823-6.
Carrodus, John Tiplady (1836-95), English composer and violinist, born in Yorkshire, studied at Stuttgart; pumil of Molique, 1848-53. His first.

pupil of Molique, 1848-53. His first appearance as a soloist was at a concert of the Musical Society of London, 1863. He held a high repntation as soloist and quartet player for many years, appearing at the Philharmonic, Crystal Palace, and other leading concerts. He played in the Covent Garden orchestra, and was leader of the opera-band for many years. He published two many years. He published two violin solos, a Morceau de Salon, and edited some violin duets.

Charles, Carrollion of (1737-1832), American patriot, horn in Collingwood's Life and Lilers of Maryland, educated at Jesuit Col-Levis Carroll, 1893: Bowman, The leges of Saint-Omer, Rheims, and Slory of Levis Carroll, 1893. Louis le Grand, studied law in Paris; Carrollton, formerly a post-vil. of the Provincial Convention. In 1776, America.

C. was sent to persuade the Canadians: Carron, a vil. near Falkirk in Stirto war against England, and was lingshire, Scotland, on the riv. C., is

born in Cheshre, educated at Rugby; powder chamber is at the muzzle, her and Oxford. He took a first in mathe, mortars. Only small charges of matics, 1854; took orders, 1861; and, powder can be used, and they are of was mathematical lecturer at Christ; short ranne. Smaller long range guns Church, 1855-81. He lived a retired; have readered them obsolete, life at Oxford, but delighted in the Carron Oil, limewater and linseed company of children, especially girls; oil mixed in equal proportions, as a A few of his witty pamphlets on; dressing for hums. The name is demirersity affairs were collected and rived from the Carron Foundry in known as Notes by an Oxford Chief. Scotland, where, from its frequent use 1865-74. His mathematical speculae, in the fromyorks, its reputation was tions were intricate and ingenious made. It is a soapy, thick mixture, Among such publications are Syllabur now often replaced by neater dress-

humiliation. First used by the of Plane Algebraical Geometry, 1860; Milanese, 1038, it later played a large Guide to the Mathematical Student; part in the wars of the Lomhard An Elementary Treatise on Determileague against Emperor Frederick nants, 1867; Euclid and his Modern Barharossa. The Milan C. was lost in Rivals, 1879. His fame rests chiefly the battle of Corte Nuova, 1237. The on Alice's Adventures in Wonderland, first Florentine one appeared in battle 1863, and its continuation, Through 1228. In times of peace the C. was the Looking-Glass, 1872, both illusentrusted to the care of some family trated by Tenniel. These hooks are still the delight of children and grownups alike. They are full of whimsical fancies, grotesque absurdities, and unforgettable remarks and incidents. They originated a unique literary genre, and have become widely-read classics, having been translated into various tongues. Miss Marion Terry was the original of 'Alice.' The first dramatised version appeared in London, 1886, but the play of neces-sity loses much of the charm of the book. Other works are Phanbismagoria, 1869; Hunting of the Snark, 1876 (humorous verse); Doublets, 1879; Rhyme? and Reason? 1883; A Tangled Tale, 1880; Game of Logic, 1887; Sylrie and Bruno, 1889; Curiosa of Logic, 1887; Sylrie and Bruno, 1889; Curiosa Symbolic

's of Parlia-1881.

and London. He returned to America, Jefferson par., Louisiana, on R. 1764, inheriting a large estate. In Mississippi, now suburb of New 1775 member of the 'Committee of Orleans, U.S.A. Also various banking Observation,' and elected delegate to towns and post-villages of North

to the Declaration of Independence; holt instead of trunnions, were in-Rowland's Life, 1898; Maryland vented in 1732 by General Robert Gazetle, 1773. Melville, and made at Carron by Mr.

Carroll, Lewis (1832-98), nom-deplume of Charles Lutwidge Dodgson, metal is not so thick as that of most
English mathematician and author, guns of the same calibre, and the
born in Cheshire, educated at Rugby | powder chamber is at the muzzle, like

1865-74. His mathematical specula- in the ironworks, its reputation was

Sec Burns.

Carrot, a plant of the genus Daucus and order Umbelliferæ. The common C. (Daucus carota), originally a native of the East, has been naturalised in Europo and America, and is a biennial plant. Iu Eastern U.S.A. it is often between the Tay and the Sidlar a pernicious weed. The root of the in Perthshire and Forfarshire. cultivated variety is much thicker Carshalton, a par. and vil. and pleasanter in taste than that of the wild. The leaves are pinnately compound, the flowers ercamy-white to pink or purplish in the central Has flour and paper mills. Pop. oncs. The foliage is beautiful for about 6800. decorative purposes, and in Charles I.'s reign ladics sometimes even wore the leaves instead of feathers. troduced into England early in the 16th century, it forms an article of food both for cattle and for man. The roots are also used for poultices. Cs. contain colouring-matter used eolour butter.

ives the largest white root, pale

These are interior to the red varieties for nutritive purposes. A deep, sandy soil, welldrained and deeply trenched, suits best. It should be prepared and manured in autumn. The main crop is sown from late March to April. The plants must be thinned out after sowing and kept free from weeds. During the winter the roots may be stored in a cellar or shed. Longrooted kinds need about 3 ft. of soil; short horn varieties do in 6 in. of good compost on top of poorer soil. Carruthers, Robert (1799-1878),

Scottish journalist and miscellaneous scottsh journalist and miscenaneous writer, born at Dumfries. In his youth he was apprenticed to a bookseller, becoming editor of the Inverness Courier, 1823, and proprietor, 1831. His best-known works are his edition of The Poetical Works of Alexander Pope, 1853 (4 vols.), which met with much favour, and Life of Pane with Enterols from his Corre-Pope, with Extracts from his Corre-

1824; Poetry of Millon's

The Highland Notebook
an annotated edition of Journal of a Tour in U

1851. See Memoir of W. and R. of Ireland, and successfully engined probability of the Covenant, which was a great Protestant and Aird's Poetical Works, cd. by Wallace,

Carse, a Scottish term for low, alluvial lands adjoining rivers, examples being the C. of Gowrie, C. of m. N.E. of Sacramento, on the Vir-

ings, such as a solution of bicarbon- Falkirk, C. of Stirling. C. soils are ate of soda and a thin smearing of usually very fertile, consisting of vaseline, or oxide of zinc ointment. argillaccous deposits, but sometimes they are barren clays.

Carsebreck, the great Scottish eurling eentre, 11 in. by rail from

Stirling.

Carse of Gowrie, a very fertilo dist. of Scotland, extending some 15 m. between the Tay and the Sidlaw Hills

Carshalton, a par. and vil. of the Wimbledon division of Surrey, England, 3 m. from Croydon, on London, Brighton and South Coast Railway.

Carsoli, a city of Italy, on the site of the ancient Carsioli, 40 m. N.E. of In- | Rome. There are extensive vine-

(1809 - 68).

yards. Pop. 5000. Carson, Christopher

familiarly known as 'Kit' Carson. American trapper, guide, and soldier. He emigrated from Kentucky to Missourl as a hunter and trapper. knowledge of Indian languages and habits made him excellent as a guide in Fremont's Rocky Mts. explora-tions, 1842-4. C. served under Fremont during the conquest of Callfornia, 1846-7, and settled in New Moxico, 1854, becoming United States Indian agent at Taos. For his scr-vices in the Civil War he was breveted brigadier-general. Ho died at Fort Lynn, Colorado. See Burdette's Life, 1869; Peter's Life, 1874.

Carson, Sir Edward Henry (b. 1854), living lawyer, the son of Edward C., C.E. of Dublin, was educated Portarlington School and Trin Trinity College, Dublin. Here he obtained his M.A. degree, and later the honorary distinction of LL.D. Sinco 1892 has continually represented his university in Parliament as a Con-servative. His advancement as barrister has been exceptionally rapid. In 1894 he was appointed Queen's Counsel at the English bar, having held that office at the Irish bar since 1889. Having acted as Solicitorrated with General for Ireland in 1892, he be-oduce the came Solicitor-General in 1900, re-Literature, taining the position till 1906. In 1896 Chambers he became Privy Councillor for Ire-on his Bowdlerised Household Edi-land and in 1905 an English Privy tion of Shakespeare, 1861-3. Other works are: History of The Councillor. During the Unionist

which was a great Protestant and

Orange demonstration.

centre of a mining district. 2100.

Carstairs, a par. 31 in. E.N.E. of Pop. less than 2000.

Carstares, William who liad been cated by Sinclair, minister of E. Lothian, a renowned student, and afterwards at the college of Edin-

and in order to secure quiet and safety he seut his son to Holland to complete his studies. There he complete his studies. There he studied under the most celebrated professors, and was probably or dained in the Dutch church. He also made the acquaintance of William of Orange, and became his confidential adviser. In 1672 he came to London. and was arrested by Lauderdale on petty charges of ercating disturbances. Nothing was proved against him, but he was kept a prisoner in Edipburgh Castle for five years. He returned to Holland, and from there made frequent visits of investigation, acting as agent between English and

really did not uphold, ho was arrested and again imprisoned in Edinburgh, where, under torture, he revealed information concerning other plots in which he was mixed up. Another period of eighteen months' imprisonment followed, and on his release he sought security in Holland, where he became chaplain to William of Orange. In reconciling the Scottish Church his influence was invaluable, his advice having the greatest possible weight with William. His great authority in ecclesiastical affairs gained him the nickname of 'Cardinal C.' Under Anne he was elected principal of Edinburgh University and presented with a living. Four times in cleven years he was appointed inoderator in the General Assembly. He supported the union of England and Scotland, but never tolerated the Act of estoring private patronage in the Scottish Church.

Carstens, Asmus Jakob (1754-98), a Danish artist, born near Schleswig, Prussia. He was apprenticed to a wine merchant for five years, but at Lübeck and Berlin, during which he R.

ginia and Truckee Railway. Its chief barely supported himself by portrait-industry is agriculture, and it is the painting. He was released from Pop. penury by the success of his great composition The Fall of the Angels, which contains 200 figures, and which Lanark, on the Caledonian Railway, gained for him the patronage of the in the S. of Lanarkshire, Scotland, court, a professorship at the Berlia Hc now Academy, and a pension. (1649 - 1715), visited Rome, in order to study the son of a minister of Catheart, near works of Michael Angelo and Raphael, taken and his enthusiasm for these masters prisoner at the battle of Dunbar by had a most stimulating effect on Cromwell and exchanged, was edu-German art. His numerous drawings represent chiefly subjects from the ancient classic poets and from Ossian and Shakespeare. Towards the end of his life he broke with the academy, and died at Rome in the deepest poverty.

Cart (A.-S. cræt, diminutive of carr car), a general term for various kinds of vehicle, strictly two-wheeled, topless and springless, usually designed to carry heavy loads and to be drawn by one horse. It is the most primitive form of carriage or chariot (q.r.). Cs. are generally for agricultural or postal purposes, for transport of goods or luggage (farmer's C., tradesman's C., carrier's van). Combined with other words it may denote special kinds of pleasure-carriages. Examples are the dog-cart (originally made for the conveyance of sporting dogs), a rather high, two-wheeled carriage with seats back to back, in front and behind. These are particularly suited for tandem-driving. The gadabout is dog-cart; the Whitechapel cart, 'gig' ('stanhopes' and 'tilburies' included) are other varieties. governess-cart ' is a very low, twowheeled pony-carriage with two side wheeled pony-carriage with two suces seats facing inwards. Other two-wheeled Cs. are the Irish 'jaunting-car,' the Canadian 'calash,' and the American 'trotting sulky.' The 'dump-cart' is one that can be unloaded by tilting the hody of the vehicle, and is much used for carting super trans and refuse (dust-cart).

away stones and refuse (dust-cart). Cartagena, Spain, a fortified sca-port, 326 m. S.E. of Madrid. It was formerly the largest naval arsenal in Europe, and its barbour, enclosed by hills, and commanded by a fortified island on the S. side of the narrow entrance, is capable of bolding the largest flect. Built by Hasdrubal (242 B.C.) under the name of New Cartbage, it was of great importance under the Romans. C. was twice taken by the British in the 18th century; was seized by the commune, 1873; and retaken by the national force, 1874. Pop. 116,000.
Cartagena, S. America, cap. of Bolivar, was founded 1583. It has a

the age of twenty two he went to Bolivar, was founded 1583. It has a Copenhagen to study art. Then folline harbour, and the Dique Canal lowed a period of great poverty in connects the port with the Magdalena C. was taken by Drake, 1585;

pillaged by French buccaneers, 1697; bombarded by Admiral Vernon, 1741; captured by General Morillo, 1815, but finally freed from the Spanish yoke 1821. Exports cotton, sugar, bides, tohaceo, coffee, cacao.

(including suburbs) 18,000.

Cartago, the cap of the prov. of C. in Costa Rica, Central America, 121 m. E.S.E. of San José, on the Trans-Continental Railway. It is situated on a fertile table-land, 4930 ft. above sea-level, at the base of the Irazu (11,200 ft.), which are hot mineral springs-the resort of invalids. An eruption of Irazu flooded the city in 1723, the greater part of which was destroyed in 1841 by earthquake. It is noted for its fine coffee. Pop. 4536.

Carte, Thomas (1686-1754), his-rian, received his education at University College, Oxford, and took his M.A. degree at both English He universities. was appointed reader at the Ahhev Chapel, Bath. but resigned (1714) rather than swear allegiance to the Hanoverian government. He published a Life of James. Duke of Ormonde, and a History of England. Most of his MSS, is preserved in the Bodleian Library. Oxford.

Carte, Richard D'Oyly, sec D'OYLY

CARTE.

Carte-Blanche, a blank paper with an authoritative signature, to be filled up as the recipient wishes. Thus, the carte-blanche sent by Charles II. to the English parliament, to be filled with their own terms as the price of his father's life; and that given in 1832 to Earl Grey for the creation of new peers. In piquet, a hand contain-

ing no pieture-cards. Cartel (from Med. Lat. carlellus, a diminutive of earta, paper), the term applied to a document which regulates the exchange of prisoners of war. The 'Cs.' decree the values of prisoners of different rank, who are now exchanged on this basis instead of hy ransom. A C. ship is one of truec, exempt from capture; it is used to convey prisoners who are to be exchanged. In Germany, 'Cartells,' or 'Kartells,' are industrial combinations, of which there were over 345 in 1897. Often members of the same C. have a central sclling office, whilst their output and prices are frequently Among the subject to regulation. most successful are the combination of eoal miners, and those of the iron industry. These Cs. are at present on friendly terms with the government.

Carter, Elizabeth (1717 - 1806), famous for her knowledge of languages, published her first volume of

the Italian of Algarotti Sir Isaac Newton's Philosophy explained for the Use of Ladies. Her translations from Epictetus (reprinted in Everyman's Library), etc., won the admiration of Dr. Johnson and other learned contemporaries

Carter, Henry (1821-80), an English engraver and publisher, better ben-name, 'Frank known by his pen-name, Leslie, assumed in 1849. artist to the Illustrated London News, then went to the U.S.A., 1848. founded Frank Leslie's Illustrated Newspaper in New York, 1855; the Chimney Corner, 1865, and other periodicals. He also issued an illustrated history of the American Civil War, 1862. His wife continued to publish the Weekly and other papers,

under the same name, after his death. Carter, Robert Brudenell, F.R.C.S. (b. 1828), ophthalmic surgeon, received his medical training at the London Hospital. During the Crimean War be served as staff-surgeon, and won both English and Turkish medals. In 1870 he was appointed ophthalmie surgeon to St. George's Hospital, and from 1893-1903 still attended that hospital for consultations. The Royal College of Surgeons gave hlm in 1881 the Hunterian professorship of pathology and surgery, and he later necepted the Lumleian lectureship from the London Medical Society. He has translated German ophthalmic works, and is the author of several original treatises on eye diseases.

Carteret, Sir George (c. 1609-80), an English naval officer and Royalist politician, nephew of Sir Philip C. (d. 1643). By 1633 he was a captain in the navy; comptroller of the navy, 1639. C. became lieutenant governor of Jersey, 1643. He was knighted, 1646, and was one of the original proprietors of New Jersey in America, 1650. Forced to yield to the Commonwealth, 1651, C. served for a time under Vendome in the French navy. He was treasurer of the English navy, 1661-67. C. became sole proprietor of E. New Jersey, 1676; he was also one of the original proprietors of Carolina.

Carteret, John, E. of Granville (1690-1763), eminent statesman, was educated at Westminster School and Christ College, Oxford. From university he entered immediately into the vortex of the political life of the metropolis, and in 1711 took his sent in the House of Lords as second Baron C. As he was Whig by conviction, he f

Stanhope a

1719-24, he his diplomatic services. Despatched poetry at the age of twenty-one, and by Stanhope as ambassador extra-in the following year translated from ordinary to Sweden, he negotiated 350

two treaties, one between Sweden and whon she is already the centre of a Hanover and Prussia, the other between Sweden and Denmark. In 1723 he was present at the somewhat in-effectual congress of Cambrai. His notable Lord-lieutenancy of Ireland dates from 1724. The abolition of Wood's coinage was due largely to ft over his

Drapier's Letters, he ended by gaining the Dean's highest respect and admiration. From 1730 to 1742 he devoted his activities to the overthrow of Walpole's ministry, and, having achieved his object, became the true leader of the subsequent cabinet. When the Pelhams came into power in 1744, C. ceased to be a political force, though in 1751 he accepted the Lord Presidency of the council. who was twice married, is described by Horace Walpole as of 'commanding beauty,' and enjoyed a high conteniporary reputation for his oratory, wit, and sociability no less than for his classical learning.

Carteret, Philip (d. 1796), navigator, was commander of the second, in Wallis'

thern hemlaccidentally

lost sight of his leader, he was alone when he discovered Piteairn's Island and when he gave his name to one of the Solomon Archipelago. He contributed considerably to contemporary geographical knowledge.

of Tunis (Africa), the capital of o of the most important empires of t ancient world. Known to the Roma as Carthago and to the Greeks cuse sent for καρχηδών, its true name was Kirjat Hadeshath or 'New Town.' Thame was given either to distinlend the carthaginians at the Crimisus earlier settlement at Utica. The exact in 340. There was peace for thirty position of the city on the promontory is not known, but the city was dis-tinguished by its citadel (Byrsa), which was approached by sixty steps. It had two harbours, one for merchant ships and one for warships. Outside the walls of the city was tho beautiful suburb of Megara. C. was settled by the Phænicians of Tyre, a branch of the great Semitic race, boat the middle of the 3th conture. about the middle of the 9th century B.C. There were already Punic settlements in the north of Africa-Utica, Tunis, and Hadrunietum—but of these C. finally obtained the chiefdom. The story of the city's first struggles for enter history till the 6th century B.C..

prosperous commerce, and the ruler of extensive dominions, extending from Cyrene to the Straits of Gibraltar, with most of the western Mediterranean islands, and with settlements in Spain and Gaul. The pop. of the eity and its district consisted (1) of pure Phœnicians; (2) of Libyo-Phœnicians, the offspring of intermarriages between the settlers and Africans: (3) the Libyans themselves, reduced to servitude and forming a large part of the Carthaginian army; (4) the Nomads, wandering tribes which furnished the city with irregular The extent of the comcavairy. mercial genius and maritime daring of the Carthaginians may be seen from the fact that Hanno, one of their admirals, is reported to have sailed, in the 6th century B.C., round the N.W. of Africa and up the Senegal R., returning then only through the failure of his provisions. The history of C. is mainly taken up by its wars with the Greeks and Romans, and to the first of these we must turn. The struggie was waged chiefly in Sieily where C. came into conflict with the Greeks of Syracuse. In 480 B.c., a great battle was fought at Himera, between Hamilear and Gclo of Syracuse, and the former was defeated and slain. Some time later, the war was renewed, and Hannibal, grand-son of Hamilear, entered Sicily to avenge his grandfather, which he did geographical knowledge.

Cartesius and Cartesian, see DESCARTES.

Carthage, a rich and important city afresh, and Dionyslus, tyrant of situated on a promontory at the north-eastern extremity of the Bay He was saved, however, by the of Tunis (Africa), the capital of or out among

he latter were strugglo con-

years, until Agathoeles was tyrant of Then C. again attacked. Syracuse. but Agathoeles transferred his forces to Africa, and carried the war to the very walls of C., which he would have taken had he not been suddenly called homo. In 277 B.C., Pyrrhus was called in to the aid of the Syracusans, but Rome and C. were leagued against him, and he could do nothing permanent. More important even than this war was the mighty struggle with Rome. Treaties made between the two cities in 509 B.C. and about 450 B.C., show that C. was then the superior, and was gradually increasing power are unknown, for she does not her restrictions on Roman commerce. The first war lasted from 264-241

B.C., and once again Sicily was the and in 1176 the order received papal cause. The Romans hastily built a recognition. The C. were divided into This led the great Hamilcar to estab- and over these a black cloak. then the city was taken after a stubborn defence and utterly destroyed. At that time the city is said to have had 700,000 inhabitants. Thus ends the history of C. as a Semitic power, though she was destined to rise again as a Roman

Carthage, Cape, a promontory of N. Africa, jutting out into the Mediterrancan. N. of Tunis lagoon are ruins of the ancient city of C.

Carthago Nova, see Cartagena. Carthamin (C₁₄H₁₄O₂), a red colour-ing - matter prepared from safmixing C. with French chalk.

Carthamus, a genus of common to Asia, Africa Mediterranean. C. lines Egypt and the Levant; the flowers Canada with Sir John Maedonald contain a colouring principle, and are lasted from 1858-1862. As a statesnsed by dyers as the source of delicate metic known as rouge.

monastic order Carthusians. a founded in 1086 by St. Bruno and six counded in 1986 by St. Bruno and Six Railway as well as for the final determinations, who retired to La Charteuse, and there huilt hermitages, dressed in rude habits, and ate only vegetables and coarse bread. The fifth prior, Gnigo, in 1134 composed a list of rules, entitled the Statuta a list of rules, entitled the Statuta Guigonis, or Consuctudines Cartusiae, from St. Malo with intent to find the

fleet, and won two great sea-fights at two classes, fathers and Mylæ (260) and at Ecnomas (256) brothers (conversi), and each occupied Africa, hut his army was entirely cut with a straw bed, pillow, coverlet, to pieces. Peace was mado after and writing materials. They lived in another naval victory for Rome. isolation, and never left their cells From 241-236 B.C., C. was engaged except for festivals or for the funeral in a bloody civil war, which demond of a fellow C. Their habit consisted strated the insecurity of her homerule. Of a haircloth shirt, a white cassock. lish himself in Spain, and to try to order at one time counted sixteen found there a new empire which should provinces, and possessed many magsubdne Rome. After his death and nificent convents: La Grande Charthat of his son-in-law, Hasdruhal, his treuse, near Grenoble, the original that of his son-in-law, Hasdrunai, his son Hannibal, sworn enemy to Rome, monastery, and the home of the was chosen leader of the army. His attack on Saguntum in 219 B.C. was tatack on Saguntum in 219 B.C. was the commencement of the second Naples. Their principal seats were in Italy, France, and Switzerland, but Punic War. (For full account of this tally, France, and Switzerland, but see HANNIBAL). The hattle of Lama in 202 put an end to this war, and for the next fifty years the history of c. is mainly a record of political struggles. The Romans were per
1880 they had declined to accept inpetually oppressing, and in 149 B.C. was goaded into the third Punic War. It lasted for three years, and evicted during the anti-electical movethen the city was taken after a ment of 1902, and their home was sold ment of 1902, and their home was sold by government authority. The order was established in England in 1180. The London Charterhouse (a corruption of 'Chartreuse') was founded in 1371, and abolished during the dissolution of monasteries by Henry VIII. Strangely enough, this huilding eventually became a 'masterpiece of Protestant English charity (Fuller). The C. nnns arose at Salette, on the Rhone, 1229. They followed the rules of the monks with some modifications, notably that of a common refectory.

flower. It is insoluble in water, but gives a purple red solution with (1814-73), Canadian statesman, enalcohol. It is used as a dye for silks tered the Canadian parliament in and cottons and requires no mordant, 1848. A leader of a rebellion against British rule in 1837, his political ideas but it does not become permanently British rule in 1837, his political ideas attached to wool. The familiar cos- underwent so radical a change as to metic 'ronge' may he prepared by prompt him to join the reconstructed mixing C. with French chalk.

Liberal-Conservative party in 1854. As for Lower Canada,

province (1857-64). man he was largely responsible for rose colours and rich scarlet, while the entrance of Quebec into the mixed with tale they form the cos- [cderation (1864-67), for the removal of seigneurial tenure from Lower Canada, and for the Grand Trunk Railway as well as for the final deter-

codification of the

N.W. passage to Japan. Disappointed | Cartoon (It. castone, pasteboard, he returned home, but in 1536 he set from Lat. charle, paper), a design on

low elastic fibre, and is in the ear. a cartoon, epiglottis, and Eustachian tubes. Cartouel any nerves.

priory. Pop. 6270.

Cartography, see MAP.

Carton, R. C. (b. 1856) (whose real meaning a case for explosive charge, name is Critchett), dramatist, began is merely a corrupt form of cartouche.

sail once more, landed in Pillage Bay, strong paper, representing, in full opposite Anticosti, which he named size, some contemplated work of art, the Bay of St. Lawrence—a name and intended to assist the artist in the Bay of St. Lawrence—a name and intended to assist the artist in afterwards extended to the river—the composition of his work. The and learned from some Huron-fro-design when finished is transferred quois Indians that he was in the land by tracing or pouncing to the surface of Canada—a natire word for 'rillamous Cs. are those of Raphael boats as far as the site of Montreal, which were executed for the celebe was able to look down from Mt. brated tapestry of the Vatican. These Parallon to the Ottawa and St. Jaw. designs were numerased by Charles I. Royal on to the Ottawa and St. Law-designs were purchased by Charles L. rence stretching far to the W. The repurchased by Cromwell for the attempt in 1541-43 to find the mythination, restored by William III. who attempt in 1541-43 to find the mythical Sagnenay, a wealthy kingdom, built for them a gallery at Hampton which, according to Indian story, lay which, according to Indian story, lay up the Ottawa, ended in hopeless failure.

Cartilage, a gristly tissue existing at various parts of the body. It takes the place of bone where yielding is required, as at the joints and in yarious tubes. It is the precursor of bone, and in the fœtus C. exists instead of bone, except in the case of some of the flat bones. It is of three Modern German artists have prepared kinds. Hyaline C. is glassy, and is accurate Cs. the most noteworthy found at the end-joints, such as the points where the ribs are connected freezo paintings in Munich. In Engitherical Competition for White fibrous C. is reliable to the herast bone and in the nasal' land there was a revival of C-work in Cs. It contains no blood vessels. 1843-4, during the competition for Co. It contains no thook ressels 1843-4, during the competition for White fibrous C. in which there are the House of Parliament paintings white fibres arranged in layers occurs. Dyce and Maclise have left fine in the knee-cap and vertebral column, examples in this line. A large-sized Yellow elastic C. has a matrix of yel-drawing in a periodical may be called the relation fibration of the containing the collection of the collecti

Cartouche: 1. In architecture signi-None of these varieties of C. contain fies any scroll-shaped ornamentation. such as the volute of an Ionian cap. Cartilaginous Fishes, or Elasmo, the oval tablets on which the arms branchii, form a sub-class of the of the popes were engraved, and the Pisces on account of their gristly oblong devices in Egyptian monuendoskeleton. They are, with a few ments and paperi containing royal exceptions, entirely marine, and names carried in hierorlyphic charmodude the sharks, dog-fishes, skates, acters. It is used especially of any and may the season of the content of the native the sharks, dog-nsizes, states, acters. It is used especially of any and rays. See Elasmobranchi. inscriptive tablet sculptured so as to Carimel a mrkt. th. on the Furness represent a half-unrolled sheet of railway. 12 in N.W. of Lancaster in parchment. 2. Meaning originally a Lancashire. Enriand. It is famous roll of paper, was used of the wooden for its remains of an Augustinian case enclosing cannon halfs and later of the waterproof canvas case for cartridges. The word cartridge.

by writing some small pieces in collaboration. While an unnatural senti-powder required to charge a fire-arm. laboration. While an unnatural sentimentalism spoilt his earlier plays, a
fund of lively humour and a literary
excellence coupled with a just appreciation of stage technique have made,
many of his subsequent light comedies a distinct success. Among these
may be counted his Lord and Lady
Mr. Hopkinson, and Mr. Preedy and
Mr. Countess.

Carton-pierre, a substance very of a brass C-case, containing bullet,
similar to nabler maché, used as a powder, and nimer. Os originally similar to papier maché, used as a powder, and primer. Ca. originally substitute for plaster in making came into use for muzzle-loading mouldings for walls, roofs, ceilings, etc. rifles, and in these bullet and powder

were wrapped togother in a paper but in 1809 government made him a cylinder. When required for use, the end of this was torn or bitten off and the powder poured down the muzzle. The bullet and the C.-paper were then rammed down on top. A somewhat similar C. was in uso with the first breech-loaders, and the introduction of the steel, soon changed to copper, percussion cap marks the next stage in development. This cap, containing



a detonating compound chlorate of notaslı, sulphur, and soon eharcoal, lod to the introduction of the modern C. case, made adaptablo for all kinds of rifles. The modern C. for breech-loading small arms consists of a solid brass cylindor at the haso of whileh is the detenator, #14 10 1 146 N Tale or see C ar Cop (Prot Ob (Prot Table en de la composition della com

Drighte orrica

brassbaso, or else of thin brass throughout. Ignition may be either by pin or central fire. Blank Cs., which are used for drill, salutes, ctc., contain only powder and priner, but no bullet; while dummy Cs. contain no powder. These last are used for drill purposes, where practice in the handling of Cs. might sometimes load to dangerous accidents unless this precaution were taken. The Illustration is a section of the Bonax C., manufactured by Messrs. Kynock.

Cartridge-paper, originally a stout paper manufactured for cartridges, ls now used as a paper especially adapted for drawing, which is creamcoloured and is made with rough surfaces of varying thickness.

Cartwright, Edmund (1743-1823), the inventor of the power-loom, was born at Marnham, Notts. Educated at Oxford, he afterwards obtained the rectorship of Goadby-Marwood, Variation of the property of the prop Leicestershire. A visit to Ark-wright's cotton mills resulted in his Invention, and ho set up power-looms first at Doncaster, then at Manchester. He met with great opposition and no peeuniary gain,

grant of £10,000.

Cartwright, John (1740-1824), 'the father of reform,' entered the navy in 1758, and within eight years had been advanced to the rank of first licutenant. He retired from the service in 1777, his sympathics with the Americans preventing him from joining Lord Howe's fleet. He had already begun to express his opinions, and his first painphlets were on the question of American taxation. He became an ardent reformer, and held meetings and wrote tracts to further the movement. He desired to ventilate his views on the floor of the House of Commons, but was unsuccessful in each of his several efforts to find a constituency to return him to Westminster. His Life was written by his nicce, F. D. Cartwright, 1826.

Henry), t home, W. Ady, an rector of Ockham. She is the author of many magazine articles and works of fiction, but is known chiefly as an art critic. The Pilgrims' Way and Sacharissa, her early efforts, appeared in 1892 and 1893, whilst from 1894 to 1905 date her series of critical Raphael in Rome, J. F. Millet, G. F. Watts, Bastien-Lepago, Christ and his Molher in Italian Art, 1897: The Painters of Florence, 1901; Bottleelli,

Cartwrig American had gambled at horse-raeing and eards till be heard John Page preach. From 1802 till his death he distinguished himself as a 'raey writer, and as a stirring backwoods preacher, r in the (1813-16). aeti: Wal districts. and of several

districts of the Illinois conference.
Cartwright, Sir Richard John (b. 1836), Canadian statesman, entered the Canadian parliament as a Conservative, but finally joined the Liberals in 1870, and became their Minister of Finance in 1873. He was remarkable for his strict economy, and during tho years of opposition, 1878-96, acted as financial critic to his party. In 1896 he was appointed Minister of Trade and Commerce under Sir Wilfrid Laurier, and from 1898-9 represented Canada on the Angle-American Joint High Commission at Quebee and Washington. Though he retired from the senate in 1904 owing to failing lealth, he was acting Premier in 1907 during Laurier's absence Imperial Conference. Cartwright, Thomas (1535-1603), a

Puritan divine, during a stormy Examples may be seen in species life of persecutions, did much to strengthen and organise Puritan doctrines. In 1570-1 Whitgiff deprived him hoth of his divinity professorship and fellowship at Campano, one of the first-class ports of Venezuela, S. America, in the fessorship and fellowship at Campano, one of the first-class ports of Venezuela, S. America, in the state of Bermudez, on the N. coast of bridge. The rest of his life was divided between vista to the Continent of the peninsula of Paria, and is provided

Cartwright, Thomas (1634-89), an English divine, grandson of the Puritan leader (d. 1603). Educated at Northampton and Oxford, he hecame tabarder of Queen's College, and studied under Tully, 1650. Secretly ordained by Bishop Skinner, 1655, C. became vicar of Walthamstow, 1657. He was prehendary of Wells, 1660; of St. Paul's, 1665; dean of Ripon, of St. Fatts, 1905, team of Ripon, 1675; hishop of Chester, 1686. He was a staunch supporter of James II., who made him bishop of Salishury. See Dict. of Not. Biog.; Hunter's edition of Diary of Thomas Carturight,

Bishop of Chester, 1843. Cartwright, William (1611 - 43),dramatist and divine, b. near Tewkeshury, was sent as a king's scholar to Westminster, whence he was chosen (1628) as a student of Christ Church, Oxford. He took his M.A. 1625, and Oxford. He took his M.A. 1625, and entered into holy orders. He was nominated one of the Council of War, and in 1642 was imprisoned by Lord Say, hut released on hail. His plays and poems were collected (1651) by Humphrey Mosely, the comedy, The Royal Slare, a satire on the Puritans, heing the most noteworthy of them.

Carucate (from Med. Lat. carrucata, from carucca, a wheeled plough), was once a measure of land, heing the once a measure of man, and be amount that could annually be carucage was an impost levied on each carucate of land. Some think the C. was always equivalent to a 'hide' of land, and Richard IL's tax of five shillings on every carucata terræ site hindings on every caracast rate every hyda may be quoted in support of this view. The term, which was evidently of Danish origin, was used in districts inhabited by descendants of the Danes. In the heginning of the thirteenth century its size was fixed at 100 aeres.

Carum, the name of an nmbelliferous genus of sub-tropical and temperate plants, which are glahrous herhs with perennial tuherous roots, pinnate leaves, and white flowers. C. petroselinum is the common parsley, and C. carui, the common caraway, is cultivated for its fruit, known as caraway secds.

Caruncle, a botanical term for a hard, small extra seed-covering, or rail, and is also called a strophiole.

Carupano, one of the first-class ports of Venezuela, S. America, in the state of Bermudez, on the N. coast of the peninsula of Paria, and is provided with a lighthouse and excellent harbridge. The rest of his life was divided the peninsula of Paria, and is provided between vis.ts to the Continent, to with a lighthouse and excellent hardon. Sulphur, copper, silver, lignite, etc., and imprisonment, chiefly at the and lead are mined in the neighbour-fleet, for his pronounced Preshythouse High tariffs and poverty keep terian views.

for which are eccoa, coffee, hides, etc. Pop. over 12,500. Carus, Julius Victor (1823-1903), eminent German zoologist, studied medicine at Leipzig, Würzburg, and Freiburg, and in 1849 hecame keeper the museum of comparative of anatomy at Oxford. His appointment to the chair of comparative anatomy at Leipzig dates from 1853. Twenty years later he lectured in Edinburgh for two summers in place of Wyvile Thompson. Though he is the anthor of several scientific textbooks, such as Hundbuch der Zoologie Gerstäcker, 1863, etc.), his splendid monographs on many prohlems in zoological research are his most valuable contribution to con-

temporary science.

Carus, Karl Gustav (1789-1869), a German physiologist and landscape painter, was educated at Leipzig. is distinguished for the multiplicity of his interests and the versatility of After lecturing on comhis mind. parative anatomy in his native place he became professor at the medical college of Dresden in 1814 where he passed the remainder of his life, throwing his honse open to all the leading Dresden painters and savants. In 1827 he was royal physician, and was appointed privy councillor in 1862. As a philosopher he adopted 1862. As a philosopher he adopted the principles of Schelling. In one of his works he argued that there are many reasons for helieving that the cell is endowed with psychle life. His many publications deal eliefly with anatomy, physiology, and problems in psychology Carus, Marcus Aurelius (282-283).

a Roman emperor, surnamed Persicus, who was elected by the soldiers on the death of Probus. He was a scholar and a soldier, and immediately after his accession he set out to war against the Persians, first conferring on his two sons, Carinus and Numerian, the title of Casar. He ravaged Mesopotamia, conquered the important efficient Selevial and important eities of Selcueia Ctesiphon, and advanced heyond the Tigris, when his sudden death by lightning put an end to his hopes for the conquest of Persia and Arabia and the submission of Egypt.

Carus, Dr. Paul (b. 1852), living

American writer, was educated at in a caravel, that is a roundish galley-Stettlu Gymnasium and the universities of Strasburg and Tübingen. versities of Strasburg and Ludhgen. He is the anthor of a formidable list of philosophical publications, including: Science, a Religious Revelation; The Gospel of Buddha, and Control of Control of Buddhist Revelations of Revelation many other criticisms of Buddhist teaching; Lan-tze's Tan-Teh-King, and other treatises on Chinese philosophy; Goethe and Schiller's Xenions; God, an Enquiry and a Solution; Personality, etc. Caruso, Enrico,

Caruso, Enrico, M.V.O., living Italian singer, was born at Naples. Without any special musical training he early attained a world-wide fame as a tenor in grand opera, his principal rôles being Des Grieux in Manon the Dnke in Rigoletto, Lescant, Lohengrin, Edgardo in Lucia, and

Pagliacci.

Carutti, Domenico, Baron of Cantogno (b. 1821), an Italian diplomat and historian, first attained dis-tinction as the anthor of many valuablo historical works, including Political Essays, Principles of Free Governments, and histories of Victor Amadeus II. and Charles Emmanuel III., the first and second kings of Sardinia. His public advancement has been continuous since his sceretaryship in 1860-1 to the Minister for Foreign Affairs under Cavour. In the same year he entered parliament, and from 1862-69 acted as plenipotentiary at Amsterdam. In 1869 he became Privy Councillor, and since that time ho has contributed to many historical reviews, and has completed (1875-80) his exhaustive History of the

Diplomacy of the House of Savoy.
Carvajal, Tomas Jose Gonzalez
(1753-1834), a Spanish statesman, attracted considerable attention by the marked aptitude he showed for finance, and from 1790 held many financial appointments, until in 1813 he rose to become Secretary of State. Eight years later be became a member of the Privy Council, and in 1833 served on the great Council of War. He has a further claim to distinction as the author of Los Salmos, 1819, which his countrymen regard as one of the finest works in modern

literature.

Carve, William Douglas (b. 1857), English architect, born at Liverpool, and studied under J. L. Pearson, R.A. His name is chiefly known as the architect of numerous ecclesiastical

rigged vessel, with three towers on deck. The French nso 'C.' for a deck. The French nso 'C.' for a herring boat; the Turks for a manof-war. 'C. bnilt' Is applied to a boat 'whose planking is finsh with edges laid side to side' as distinct from 'clinker built.' 2. Is used in Manx and Breton literature ns a synonym for 'carol' or ballad. Originally it was always referred to a lyric set to some dance measure.

Carver, John (c. 1575-1621), a 'Pilgrim Father' who emigrated to America in the famous Mayflower, and was appointed the first governor of the sturdy Plymouth colony (1620-1621). He had taken refuge at Leyden about 1607 as the result of religious

persecution in England.

Carver, Jonathan (c.1725-80), American traveller, served in the French and Indian wars, and after the peace of 1763, set out on a journey of exploration westward. Finally he reached the Mississippi hy way of the Fox and Wisconsin rivers, and obtained from the Indians a grant of land between the St. Croix and Mississippi. In 1778 he published a narrative of his travels (1766-8) in London, but this, with the exception of his Journal, is now regarded as little more than a paraphrase of earlier accounts, his authorship even having been very seriously questioned.

Carvin, a tn. to the N. of the dept, of Pas-de-Calais, France, 104 m. S.S. W. of Lille. It has coal mines, and heet, brandy, etc., manufactures. Pop. 6800.

Carving, one of the oldest means of decoration and artistic thought expression. The word denotes cutting (A.-S. ceorfan; Gk. γράφειν), and differs from mere dranghtsmanship in that it secures relief and durability by incisions into the material and by the modelling of its surfaces. C. is thus a general term, and may be applied to sculptural work in wood, ivory, precious stones, terra cotta, stone, marble, clay, wax, etc., but the C. in the first material only will be dealt with in the present article. Oak, on account of its durability, is the most suitable wood for C.; mahogany, teak, chestnnt, and American walnut produce good work, whilst lime, sycamore, and the barks of fruit trees are employed for fine work. The fact that the fibres of wood run in a architect of numerous economics buildings, among which may be lateral cohesion limbs the school named the archbishop's palace at the carver. In all delicate work, such as tendrils or thin stems, the wise vertical direction and are deficient in lateral cohesion limits the scope of Carvel (for caravel, from GK. κάρα-βοσια, a light ship, tbrongh Italian instead of drawing across it; other-carabella): 1. Has been used in wise his detail will, in course of time, different countries of very various break away. The carver's kit con-ships. Columbus discovered America sists of chisels for drawing lines,

gonges for making hollows, etc., the of his detail, and for his loving and tool for veining, and a mallet. Commercially many mechanical devices are in use for cheapening and lightening his work. Thus in the case of fretted or seroll work the ornament is glued on the ground after being eut with a fret saw. This method This method often produces unsatisfactory work as the two woods, being differently affected by the atmosphere, tend to Another machine has a separate. revolving drill which is directed over the ground of the decoration, whilst what is called the C. macline has a number of drills moving over the surface to be earved in accordance with a tracing point which works over the ground of an iron model of the required design. After fixing his piece of wood to a bench the workman sketches or traces his drawing. Then he grounds out the spaces he-tween the lines with his gougo. The tween the lines with his gougo. next process of 'bosting' consist consists in sbaping and modelling the details of his pattern, and finally he must clean up the whole. The success of his work largely depends on his appreciation of the appropriate relativity of light and

face. They objects. adorn their spoon hand

Carving

Indian his wooden-pipe stem or fish The Egyptians from earliest times carved the faces of the dead in their mummy cases, and in the Cairo Museum is the statue of an elderly man, carved from a solid block of sycamore, which goes back prohably to 4000 B.C., and which as a work of realism, has never been surpassed in that country. In Grecce the earliest sculptors worked in wood, and for a long time their Cóara, or images of the gods, were religiously preserved. In Europe there are two great periods of C., the Gothic (12th to 15th centuries), and the Renaissance (16th to 17th centuries), but of the two the former produced work immeasurably In the Gothic period the superior. wood earver was a master craftsman, who travelled with his band from courch to church. He was actuated by high relgious and social ideals, and was oncouraged to respect the dignity of his craft by the prominence given to it in all church decoration. Thus pulpits, ehoir stalls, roofs, sereens, font-covers, lecterns, doors, and retables, all owed much of their beauty to his skill. For the splendour of his architectural imagination, for the patient minuteness and accuracy

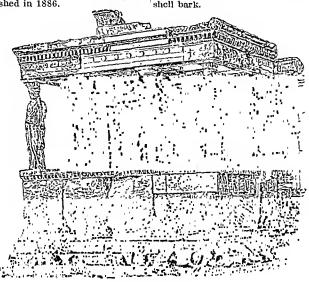
faithful imitation of natural forms. the Gothic workman is unsurpassed. The endless and fascination diversity of treatment was due to the free-play given to individual carvers, whilst the splendid richness of Gothic work owed not a little to their harmonious colour schemes of hlues, reds, greens, golds, etc. The magnificent roof of Westminster Hall and the elaborate pinnacled and canopied choir stalls of the Ahliey both belong to this period. Italy is the true home of Renaissance work, and contains perhaps the finest illustrations. But speaking generally this period is characterised by failure to grasp the essentials of true com-position by an increase in dexterity and high finish at the expense of artistic principles, and by brainless extravagance in detail and tasteless over-elaboration. The most representative examples of Renaissance C. may be found in domestie work, and especially in oak chests, cupboards, mantepicces, etc. Conventional leaves and patterns were substituted for the beautiful vine, oak, maple, and acanthus foliage of shade. C. is one of the most primitive of and popular forms of ornamentation. Among swages to-day there is often a just appreciation of the effective worth, otc., dominated the 17th and contrast of very flamboyance and profusion of his art detract from its obvious excellence in technical dexterity. It is certain that he is unequalled in tho skill with which he carved drapory out of lime wood and modelled flowers, birds, fruit, follage, etc., in the lughest relief. In modern times the art of C. has fallen on ovil days, but the decline in the art is duo rather to the diminished demand for such costly ornament-costly in parison with rival mechanical decorations—rather than to any assured decrease in the amount of talent available. The mosques of the Mohammedan world and also tho Hindu temples of India contain some of the most intricate and delicate wood work. The Arab worker knew well how to combine foliago and geometrical designs, and to intro-duce animals and figures, and was

Carving

show. Lack of restraint often spoils the effect of what is otherwise magnificent Indian C. The Hindu, however, has realised better than any other tho value of the circle in ornament, just as the Japaneso has hest reproduced the lotus and water-lily, and as the Chinanen in all nucroscopic work has ogain and again proved his superiority.

Cary, Alice (1820-71), an American 1614-21. He went to Scotland with poet, is associated with her sister James I., 1617. He was bishop of Phwbc in nearly all her literary work. Exeter from 1621-26. Her education was the result of her own ambition and energy. From 1850 she settled in New York with Phæbe, and in 1868 acted as the first president of the pioneer women's elub, the Sorosis. Besides the Clovernook Papers (1851-3), she wrote novels, but is best remembered for her graceful, lively poems which appeared in *The Lover's Diary* (1868), etc., and which were all collected. together with those of her sister, and published in 1886.

Carya, the botanical name of tho From genus of N. American trees which with comprehends the various kinds of hickory, in the order Juglandacere They are cultivated on account of their hard and elastic wood, which surpasses all other wood as economical fuel, and for the edible fruit called pecans. C. olivæformis is a swamp species with a slonder stem and de-licious hiekory-nuts; C. sulcata is the thick-shell bark and C. alba the white-



CARYATIDES

Cary, Rev. Henry Francis (1772-1844), born at Gibraltar, educated at Rugby, Sutton Coldfield, Birmingand Oxford; ordained 1796. Published his dignified translation of the Divina Commedia in 1814, and same function. The most celebrated afterwards translated Pindar's Odes and Aristophanes' Birds. Birds. Assistant-British Museum. librarian of tho Buried in 1826-37. Abbey.

Cary, Lucius, see FALKLAND, LORD. Cary, Valentine (d. 1626), an English divinc, educated ut Cambridge, becoming fellow of St. John's, 1591;

Caryatides (Gk. Kapvarvs, woman of Caryce), draped female figures which take the place of pillars in architecture, and are comparable with the Atlantes (q.v.), or malo figures, of the

ras Westminster Church, facing the Euston Road in London, are reproductions.

nſ

Caryocar, one of the two genera of Caryocaracere, or Rhizobolcæ. peculiar to tropical America, and is noted for its fruit. The wood is very of Christ's, 1595. Ho became preben-durable and is used in ship-building; dary of St. Paul's, 1601; vicar of East it is reddish, hard, and compact. C. durable and is used in ship-building; Tilbury, 1603; prebendary of Lin-nuciferum yields the Suwarrow, or coln, 1607-21; dean of St. Paul's, Souari, nuts of commerce, and C, butyrosa the butter-nuts, which contain a thick oily substance.

Caryophyllaceæ, a large order of eosmopolitan Dieotyledons, many species of which occur in Britain; they have no economic use, but are often cultivated on account of their wer. The flowers are poly-and hypogynous, with pretty flower. petalous usually five free or joined sepals, five petals, twice as many stamens, a syncarpous gyneeeum with two to five carpels, a unilocular ovary with free central placentation. The opposite leaves and swollen nodes are characteristic of this order. Lychnis, which includes corn-cockle, ragged robbin, and red campion; Dianthus, which includes the earnation and sweet-william; and Stellaria, which includes ebickweed and stitchwort, are three of the chief genera.

Caryophyllus aromaticus, or Eugenia caryophyllata, a species of Myrtacese which grows in the tropics as a small evergreen shrub, and the flower-huds of the plant are gathered before they are open, dried in the sun. and sold in the well-known form of

eloves.

Caryota, a genus of Palmaceie, some of the species of which grow to a height of 60 ft. in the East Indies. The leaves are bipinnate, and the shape of the leaves has given the genus the name of fish-tail palms. The large green or purple flowers grow in groups of three, one female between two males, and the fruit is a berry. C. urens, the wine-palm, is the best known species; it is noted for the peculiarity of producing a burn-ing sensation on the skin when the The wounded pulp is applied to it. flowers exude an enormous amount of juice from which toddy and jaggery. a kind of sugar, are obtained. leaf stalks are made into fishing rods, and their fibres into ropes: the trunk yields a wholesome stareh used as

Casabianca, Louis de (1755-98), Ήe Fr. naval officer born in Corsica. was mortally wounded at the battle of the Nile, and went down with his son, who refused to leave him, in his ship when it caught fire. Mrs. Hemans and André Chenier have celebrated

him in their poems.

Casa Blanca, or Dar el Beida, seaport tn. on W. coast of Morocco, 50 m. from Mazagan. In 1907 the town was bombarded and occupied by French troops. The chief exports are chickelose on

imports amount to £570,000 per annum. Pop. 20,000.

the Biferno, 40 m. N.W. by W. of Foggia. Pop. 6400.

Casa, Giovanni della (1503-56), an It. writer born near Florence in the Mngelio valley. He was made archbishop of Benevento and nuncio at Venice in 1544 by Pope Paul III. While holding these offices he made himself noteworthy by his violent attacks on the Protestants. He was then made Secretary of State, a post which he held till his death. lyrics, letters, and speeches are in a way excellent, but he is chiefly known for his little work called Il Galateo, ovvero de' Costumi, which he wrote between 1551-5. This book, with Castiglione's Cortegiano, gives splendid portrayal of the manners at court at the time of the Italian Re-Foreelini's edition of the naissance.

Opere is the best, published in 1752. Casale, N. Italy (anct. Bodincomagus?), on the r. b. of the Po, was long an important stronghold, and still maintains its fortifications. In 1474 created capital of the marquisate of Montferrat. Is the seat of a bishop, and contains a venerable cathedral, interesting churches, the Torre del Grand' Orologio, and some fine palazzi. Leading industries: manufactures of silk, lime, and ecment. Pop. 19,337;

eommunc, 31,793. Casalmaggiore, a ta. of Italy, in the prov. of Cremona, situated on the river Po. The manufacture of glass, pottery, and cream of tartar is carried on. There are numerous fine buildings, including an abbey, hospital, eustom-house, etc. Pop. 5000.

Casalpusterlengo, a tn. of Italy, the prov. of Milan, situated on the river Brembiola. There are manu-factures of silk, linen, and earthenware, also a trade in Parmesan elieese. Pop. 7000.

Casamance, a riv. in the W. of Africa in the French colony of Senegal. It forms an estuary which enters the sea in about 12° 30' N.

Casamassima, a tn. in Apulia, Italy, 14 m. from Bari. Pop. 8500.

Casamiccola, a tn. on the island of Isthia in the Gulf of Naples, Italy. Since 1883 it has been entirely rebuilt, as the old town was destroyed by an earthquake. Many visitors go there between May and August on account of its hot mineral springs (150° F.). Pop. 3800.

Casanova de Seingalt, Francesco (1730-1805), another brother, and an artist. Born in London, but gained his reputation in Paris as a palater of battle-pictures and landscapes. pietures can be seen at Rouen, Naney, and Lyons.

Casanova de Seingalt, Giovanni Battista (1722-95), brother of the Casacalenda, a tn. of Italy, in the Battista (1722-95), brother of the prov. of Abruzzi-e-Molise, situated on above, and a painter and professor 359

in the Academy of Fine Arts at eity in Pinal co., Arizona, U.S.A., 50

Dresden.

Casanova de Seingalt, Giovanni Jacopo (1725-98), an It. adventurer noted for his wit, accomplishments. and intrigues. He was born in Venice. His father was of old and good family, but owing to his having adopted the theatrics

by his was Zar daughte

cducated beyond his social standing. and at the age of sixteen entered a seminary at Veniec, from whence he was expelled for immoral conduct. Through his mother he was given a situation in the household of Car-dinal Acquaviva, but as he found it very dull and irksome be took to travelling. He visited capital after capital leading a vicious life, and somehow found himself in the most aristocratic society. He wrote some Memoirs which throws a strong light on the evil manners of his time.

Casarano, a tn. of Italy, in the prov. of Lecce, 10 m. S.E. of Gallipoli. Pop. 5000.

Casas, Bartolomé de Las (1474-

m. from Tucson.

Casaubon, Isaac (1559-1614), the famous classica'

at Geneva, his

originally from of twenty-four he was appointed professor of Greek at Genova, and three years later he married the daughter of the great French scholar, Henri Henry Wotton, in the Estienne. course of his continental tour, lodged with C. at Geneva. In 1596 C. accepted the Greek professorship at Montpellier, and afterwards he lingered over twelve months at Lyons, awaiting his appointment to a Paris The university of professorship. Paris had closed its doors against all but Catholies, and Henri IV. dared not appoint a Calvinist. However, he gave a pension to C., with a promiso of the royal librarianship when it became vacant, which was not until 1604. After the assassination of C. was forced to move to Henri. London, where he was mado prebendary of Canterbury, and given a pension. He was unjustly charged, after the publication of his reply to 1566), justly surnamed the Aposte the Annals of Cardinal Baronius, of the Indians, was with Columbus with having sold his conscience in on his third voyage to the New order to gain the favour of James I. World, and in 1502 travelled to Hispaniola. He had already studied in time been drawing near to the Anglo-Salamanca, and in 1510 entered the Catholic Church. He devoted his life priesthood. In 1511 he was given an to classical study, though often ham-

many ways, and he helped to connected knowledge of the the ancients. He published

own slaves, and finding the commis- etc.; sion of inquiry into slavery quite unavailing, he successfully urged the importation of negroes to relieve the Indians of the heavy work that was slowly killing them. It is difficult slowly killing them. It is difficult then to discover what good he did; he substituted negro for Indian labour, and to him is due the present race problem in America. Not only was he incessant in exposing to the public the cruelties he witnessed, as in his Brevissima Relacion de la Destruccion de las Indias, but he sternly and boldly proclaimed the iniquity of giving encomiendas to private individuals and of warring against the generously Indians, and devoted his last energies to the restoration of a court of justice to the Indians of Guatemala. See Life by Helps.

Casas Grandes: 1. An ancient city in the state of Chihuahua, Mexico. 130 m. from El Paso. It has ruined buildings erected by Pueblo Indians and discovered in 1660 by the Spaniards. 2. The ruins of a prehistoric 42 B.C.

Græcc and I Corre.

lected by D Ameroveen (Rotterdam, 1709); his diary, Ephemerides, edited by his son Meric (q.v.), is preserved in MSS. in the Chapter Library, Canterbury, and was printed by the Clarendon Press, 1850. His Life was written by Mark Pattison, 1875.

Casaubon, Meric (1599-1671), son of Isaac, accompanied his father to England, and was educated at Christ Church College, Oxford. Was made prebendary of Canterbury and vicar of Monkton in Thanet, deprived of his appointments in 1644, but restored in 1660, and eventually became rector of Johann He intention his catalogical control of the latest control of th of Ickham. He inherited his father's taste for classical research, and vindicated the memory of Isaae C. in two Latin works.

Casca, Publius Servilius, a tribune of the Plebs in Rome in 44 B.C. He was one of the assassinators of Cæsar. He was killed at the battle of Philippi.

The bark is taken from the tree and the action upon the C to meet all mandried, when it yields a fluid extract, nor of cases bearing some analogy to known as C sagradu (sagred bark) which is greatly used as a cath

When taken two or three times .

constinution.

Cascarilla, which is a S. American genus of Rubiacez, is noted for ita-hark, which resembles that of Cinchona, and is used as a valuable aromatic and tonic. It arrives in Europe in short, thin, brittle rolls, and so receives its name, which signifies title bark. The bark of Croton C., a species of Euphorbiacere, is known as C. hark, and is used as a tonic.

Cascina, a commune in Tuscany, Italy, on the R. Arno, in the prov. of Pi-a Cotton, linen, soap, and silk are its industries. In 1364 the Florentine soldiers defeated those of Pisa here. Pop. 26,000.

Case, in grammar, one of the forms of declension to which nouns, pronouns, and adjectives are subject.
Means literally a falling, and was so
applied because the subject of a sentence had to be imagined as an upright line, with the other words falling away from it. The English language contains only the genitive and some traces of the dative (as in 'whilom,' 'seldom'); Latin has six, nominative, genitive, dative, accusative, vocative, and ablative; Greek has no ablative; Sanskrit has two additional Cs.,

Cascade, a range of mountains in the were classified by the common law United States situated in the N.W.. (q.t.) of England. In the early days of and stretching in a N. to S. direction through the states of Washington, for civil injuries were few and risid. Oregon and N. California. It is complete the chancellor and his sub-posed of granite in N. Washington, ordinates, who had control of the but all the remaining part is volcanic, office out of which write were issued, covered many times over with flows initiated in right of an assumed equicovered many times over with how; initiated in first of an assumed equitor law at the range has either on its able (see Equitor) jurisdiction, the crest or sides many extinct volcanoes, practice of formulating writs to meet such as Shasta in California, rising to cases unprovided for by the common 14,392 ft.; Jefferson, 10,350 ft.; and law. This practice at length received Hood, 11,225 ft., both of which are in legislative sanction in the Statute of Oregon. Then there is Adams, 12,470. Westminster, which permitted actions ft.; St. Helen's, 10,000 ft.; Rainier, to be framed in consimilar case, i.e. 14,525 ft.; and Baker, 10,827 ft. in by analogy to similar cases or sets of Washington. The general height of circumstances for which there already the whole range runs from \$600 to existed a sterestayed form of action the whole range runs from 6000 to existed a stereotyped form of action S000 feet. Or writ. Hence the term actions in Cascara Bark, obtained from consimili casu or, more shortly. Rhamnus Purshiona, the Californian actions on the casa. The common bear-berry or buckthorn, which is a law pleaders subsequently exercised N. American species of Rhamnaceae, considerable inventity in extending

in small doses it acts on the muscular facta concepta. i.e. framed upon the fibres of the intestine and relieves facts of a particular case. In England the action upon the C. became in one particular direction so specialised that a particular form of remedy for enforcing simple contracts became recognised as an action of assumpsil, which itself was a form of 'trespass on the case,' although the analogy to trespass in the strict sense was as remote as it well could be. By the Judicature Act. 1873, all the old forms of action were abolished and no set style of pleading is required at all, provided the plaintiff shows in his pleadings that the facts come within some legal principle. The fundamental importance of the evolution of forms of action out of actions upon the C. lies in the development of new and more equitable principles of law. As in ancient Rome through the jurisdiction of the prætor, so in England by the aid of actions upon the C. new rights grew out of remedies avowedly given to meet old principles only.

Case-hardening. In some parts of machinery touchness of material must be accompanied by durability of surface. These two conditions are satisfied by using wrought iron and tive; Sanskrit has two additional Ca., transforming its external parts into locative and instrumental. English, steel. Such material is used for French, and Italian nouns and adjectures, pins, links, and the edges of rench, and Italian nouns and aglectiaries, pins, links, and the eares of tives have lost their case-endings, but cutters, the result being greater their pronouns are still modified, while polysynthetic languages (as is generally finished bright, and then Finnish and Magyar) acquire very heated up according to requirements many.

Case, Action upon the, an obsolete leather, bones, or other charcoal or name for one of the forms of action prussiate of potash, all means of into which remedies for civil injuries causing the absorption of carbon to a small distance in the iron and lalso bank-notes, choques, monoythe consequent formation of steel. Quenching in water produces the required hardness of surface. Such surfaces must be ground, since common cutting tools will not touch them.

Casein, is a proteid, an important constituent of milk and the principal one of cheese. From the former it is precipitated by means of rennet which is an extract from the mucous meinbrano of the fourth stomach of a milk-fed calf. It is a valuable food product containing phosphates. It is also precipitated by mineral acids, but is not congulated by heat. It is allied to albumen and also to legumin found in the seeds of leguminous plants such as peas and beans.

plants such as peas and beans.
Casemate (from It. casa, a house, and matto, mad, used in the senso of Eng. 'dummy'), a loopholo gallery or eaponier, under the protection of which the garrison of a fort may fire upon the enemy below. Cs. are utilised to protect guns, hospitals, stores, etc., from high-angle or vortical firet or they may be used as harreads. fire; or they may be used as barraeks. In architecture, a hollow moulding,

such as the cavetto.

Casement, the term applied to the wooden frame with a hingo which keeps the giass of window in position. vero ali casck and pulicy

modern. given to the

vancy of the Opper Arno in the prov. of Arezzo, Italy. Tourists frequent it as the scenery is very picturesque. It was celebrated by Dante.

Caserta: 1. A prov. of Italy which up to the year 1871 was called Terra di Lavoro. It forms part of Campania and stretches from the S. Apennines to the Tyrrlicnian Sea. Aithough very mountainous, it is very fertile, and much wheat, olives, forage crops, fruit, and wine are grown there. Timber and marble are also got from this country. Its area is 2033 sq. m., and the pop. 800,000. 2. Cap of above prov. and episcopal sec. There are large sllk works here. Pop. 33,000.

Case-shot, or Canister, is a projectile of artillery, designed for use at close quarters. A tin or sheet-iron cylinder ls filled with bullets, varying in z. to 1 lb.,

vhich are l en this is s, scatterdistances.

they are ineffectual at a greater range than

300 yds.

Cash and Cash on Delivery System. Cash denotes primarily roady monoy,

orders, and other documents contain. ing an order to pay on demand as opposed to bills of exchange or other credit instruments (see also Cur-RENCY). The eash on delivery system is an arrangement whereby the postal authorities, railway companies, and other common carriers undertake on behalf of the vender to collect the price of goods delivered by their from the recipiout and to transmit the money to the vender. This system is highly popular in most European eountries and in India and Japan, but, except as between the United Kingdom and certain British possessions and Egypt, the system has never been introduced into England. owing to the appreliensions of local rotall traders. The amount to be col-iceted under the cash on delivery systom is called the 'trado charge. Under the existing postal regulations the trade charge on any one packet may not exceed \$20, and in the case of a parcol must not oxceed the amount of the declared value together with the postage and the fees payable on the parcel to the post office. The fees charged in the United Kingdom on eash on delivery packets from abroad are from 4d. when the trado chargo is not ovor £5, 6d. when not ovor £10, 9d. whon not ovor £15, to 1s. when not over £20. As regards the United Kingdom the system obtains as between the United King-

dom and Cyprus, Egypt, Malta, Morocco, and Turkey. Cash Credit. A C. C. is simply an advance by way of a dobit balance in current account, which advance is secured to the bank by a bond entered into by a couple of solvent partles who are guaranters for the berrower. It was a systom invented in 1729 by the Royal British Bank (which, though not strictly a Scottish bank, was promoted by Scotsmon with the object of transplanting to English soil the peculiar system of Scottish bankcapital into circulation by inducing parties to borrow and embark in business. It is unanimously acknowledged that the system, now general among bankers, has been of immense advantage to the country materially

and morally.

Cashel, Tipperary, Ireland, the sec of n Roman Catholic archbishop and of an episcopal bishop. Built on tho southern slopes of a great height (the Rock of C.), it was the stronghold of the ancient kings of Munster, and contains many interesting rulns, a stone-roofed chapel built by Cormac Cash denotes primarily roady monoy, istone-roofed chapel built by Cormac money in a bank, in a chest, strong-box, or coffer; but since the institution of banks it has come to denote the Pop. about 3000. Cashew-nut, or Anacardium occi- Casimir (properly Kasimierz), dentale, a species of Anacardiacen name of certain kings of Poland: which is largely cultivated in tropical The fruit is a kidney-America. shaped nut with a hard shell containing an acrid black juice, but when this has been removed the kernel is found to be oily, pleasant, and wholesome. It is usually roasted for eating, and is often put into old Madeira wine in the West Indies to improve the flavour. The fleshy stalk on which it grows. the cashew-apple, has an agreeable flavour, and a gum is obtained from the stem.

Casbgar, see Kashgar.

Cashibos, a savage Pernvian tribe who eat the old and worn ont members of their own family; this has its origin in a religious ceremony (see CANNIBALISM). They live in scattered groups like wild animals amongst the trees and woods around the Amazon. In physique they are a fine race, with very light complexion, and the missionary Girbal speaks of the great beauty of the women.

Cashiering (Fr. caser, to hreak), a term in military law denoting the annulment of an officer's commission and his dismissal from the service. It may be awarded by a court-martial as a punishment for a number of offences by way of alternative to im-prisonment. In the words of the Army Act 'scandalous conduct unbecoming the character of an officer and a gentleman ' is met by sentence

of cashiering.

Cashmere, in India, see KASHMIR. Cashmere, a silky woollen fabric originally manufactured from hair of the Tibetan and Bokhara goats, and woven in Cashmere. The hair is spun by women, afterwards dyed, and made into the famous shawls, one of which requires the wool of seven or more goats. These are sold in Europe at prices varying from £100 to £300, but since 1870 the demand for them has not been so great. Imitations are made in France, and attempts bave been made to acclimatise the C. goat in Europe and the United States. The name is also given to a fine woollen stuff, made in imitation of the shawl-fabric.

Cashmere Goat, or Capra laniger. variety of the common goat of the ruminant family Bovidæ. occurs in Tibet, and Kirchiz, but attempts to introduce it into other countries have proved unsuccessful. It is a smallish goat, white, black, or brown in colour, with banging ears, long borns, and long, straight, fine hair. The wool is used chiefly in the manufacture of C. shawls which are very fine in Casimir (properly Kasimierz), the

Casimir I. (1034-58), succeeded his father, Mieczyslaw II. The early part of his reign was disturbed by anarchical plots, and from 1037-40 be was obliged to leave the country. On his recall he recovered Silesia from the Bohemians.

Casimir II., the Just (1177-94). was a popular ruler and sided with the people against the nobles. During his reign the senate, composed of bishops, palatines, and castellans, was

established.

Casimir III., the Great (1333-70),
was horn in 1310. He added Red Russia to his dominions (1341). founded the Polisb law in the famous Statute of Wislica (1347), and subdued and won the friendship of the Teutonic knights and the Bohemians. He was a democratic ruler, and was, in consequence, called the King of the Peasants. He founded the university of Cracow (1364), and encouraged friendly commercial relations

tween Poland and other countries Casimir IV. (1427-92) was, by birth, Jagiello, Grand Duke of Lithuania, but by his marriage with Jadirga, the daughter of Louis, King Poland and Hungary, united Lithuania and Poland. He waged war against the Teutonic knights, and by the treaty of the Thorn recovered from them W. Prussia in 1466. During his reign the aristocracy increased in power, and won special privileges at the Diet of Nieszawa (1454).

John Casimir (1648-68) succeeded his brother. Ladislaus IV. Brandenburg won ber independence in 1657, and the Cossacks rebelled against Poland and finally joined Russia in 1654. Poland also suffered frequent attacks from Sweden and Russia, and Casimir was oblized to take refuge in Silesia. Poland lost Livonia Sweden (1660), and the territory beyond the Unieper was ceded to Russia (1667). Casimir abdicated in 1668 and lived in retirement in France till

his death in 1672.

Casimir-Perier. Jean Paul Pierre (1847-1907), the fifth president of the French Republic. He was born in er. Paris ou Nov. S, and was the grand-of son of Louis Philippe's famous It premier. Casimir Pierre Périer. His first appointment which brought him into public life was that of secretary to his father who was Minister of the Interior when Thiers was president. In 1874 he was made general coun-cillor of the Aube, and was, by that department, sent to the Chamber of Deputies in 1876. In this be was always re-elected until he was made texture, and are often valued at its president in 1893. He was made several hundreds of pounds. prime minister, but resigned in May

Morton, afterwards regent of Scot-land, asserted that he had seen to Scotland, asserted that he had found the land, asserted that he had found the documents in a silver casket in June 1567, after Bothwell had fled from Edinburgh Castle. The casket is snpposed to have contained letters, professedly written by Mary to Bothwell, some French sonnets, a signed but undated promise by Mary to marry Bothwell, and a marriage contract between the two. The documents were produced by Moray in the commisproduced by Moray in the commission, beld at York and later at Westminster, in the same year, 1567. It was alleged that the documents were written by Mary, and the hand-writing was compared with that of the queen. Mary herself vehemently denied the charge, and her request to see the original documents or copies of the same was never granted. documents passed into the hands of the successive regents of Scotland and were lost, apparently after the execution of the Earl of Gowrie (1584). The genuineness of the letters has frequently been doubted, and it is impossible now to discover the authenticity of documents which do not exist. Three theories have heen held with regard to the letters: that they are wholly genuine, that they are wholly forged, and that they are genuine in parts, with interpolations by another hand. One of the arguments used against the genuineness of the letters is that two of the most incriminating letters were written first in Scotch, and that the copies pub-

Lasino

1894, and was then again re-elected lished were a French translation. President of the Chamber of Deputies. Now previous to her flight into English resident Carnot, he was made in French, and therefore it has been elected by 451 votes as against 195 for Henri Brisson, and 97 for Charles French, and therefore it has been Dupny. His presidency only lasted six months, as he resigned in January this argument untenable. It has also been argued that Mary, like other completely and interested himself in mining. He gave valuable evidence without any autobiographical refering support of Dreyfus at that famous trial. He died on March 11.

Casino, or Kursaal, an establishmining. He gave value at that famous in support of Dreyfus at that famous trial. He died on March 11.

Casino, or Kursaal, an establishment which is very popular on the Continent as a form of promoting social intercourse. Most of the well-known seaside and holiday resorts information in the C. L. cannot he known seaside and holiday resorts information in the C. L. cannot he have a C., the most noteworthy being Monte Carlo, Ostend, and Boulone. The huilding itself generally contains rooms for gaming tables, conversation, music, reading, billiards, and dancing. This form of entertainment has not won any popularity in England.

Casket Letters, a celebrated collection of documents which, if genuine, prove the responsibility of Marry, Queen of Scotland, for the murder of her hushand, Darnley. The Earl of the hushand, Darnley. The Earl of the state of the hushand of the murder of the hushand, Darnley. The Earl of the hushand of the murder of the hushand, Darnley. The Earl of the hushand of the murder of the hushand, Darnley. The Earl of the hushand of the murder of the hushand of the murder of the hushand. Darnley the hushand of the well-them is not explained. Much of the traced elsewbere, and much differs to tell where the truth lies. Mr. Addrew Lang, in his Mystery of Marry Stuart, 1901, arrives at no definite contains have accepted the Letters as genuine, among them heing Hume, Fronde, and, among foreign writers, Governson, Laing, Tytler, Burton, Fronde, and, among foreign writers, Governson, Laing, Tytler, Burton, Fronde, and, among foreign writers, Governson, Laing, Tytler, Burton, Fronde, and, among foreign writers, Governson, Laing, Tytler, Burton, Fronde, and among foreign writers, and Gaedeke. Hosack, Schiern, Philippson, and Chantelauze. The mystery round Mary's character can never be solved, and has always been an attractive subject to historians and men of letters. The controversy round the C. L. has called forth books too numerous to mention, and only a short list of the most prominent books on the subthe most prominent books on the sub-ject can be mentioned: Walter Goodall, Examination of the Letters said to have been written by Mary Queen of Scots, to James, Earl of Bothwell, 1754; Whitaker, Mary Queen of Scots, 1778; Tytler, Inquiry, 1799; Laing, Dissertation, 1804; F. Mignet, Histoire de Marie Sluart, 1854; G. Chalmers, Life of Mary Queen of Scots, 1822; J. A. Froude, History of England, vols. vii.-xii., 1856-70: T. H. Henderson, The Casket 70; T. H. Henderson, The Casket Letters and Mary Queen of Scots, 1890 (2nd ed.); M. Philippson, Histoire du Rème de Marie Stuart, 1891-2.

Caskets, or Casquets, a group of rocky islands in the English Channel. 8 m. off Alderney. They are very dangerous to shipping, and are the scene of the wreck of the IV/hig Ship in 1120, and the Victory in 1744, and many other vessels.

Caslau, or Czaslau, a tn. in Austria in the E. of Bohemia, 45 m. from Prague. It was one of the chief towns of the Hussites. It has large sngar and other factories. Pop. 9000. Caslon, William (1692-1766), tbc first great English typefounder, horn

at Cradley in Worcestershire. He established a small business in St. Luke's, London, in partnership with Bowyer and some other printers. For many years there were very few books of importance that were printed with any other type but that of C. He took as his model types of the

Elzevir pattern.
Casoli, a tu., Abruzzi e Molise in the prov. of Chicti, Italy, and 18 m. S.S.E.

of Chieti. Pop. 7000.

Casoria, a tn. in prov. of Naples, Italy, and 15 m. N.N.E. of Naples. Produces wine and silk. Pop. 13,000. Caspari, Carl Paul (1814-92), a

German seholar and theologian, born at Dessan. He was made a professor of theology at Christiania in 1857. which appointment he held till his He wrote many theological and philological studies, and also an Besides these he Arabic grammar. published Kerchenhistorische Anekdola in 1883, and Quellen zur Ges-chichte des Taufsymbols und der Glaubensregel, a work in 4 vols., between the years 1866 and 1875.

Caspe, a tn. in Spain in prov. of Saragossa. One of the oldest eities in Spain. It is visited a good deal on account of the sulphur baths of

Fonte which are near. Pop. 7800. Caspian Sea (anet. Mare Casplum, or Maro Hyreanium, Gk. Καόμα Θάλόσα), the largest inland sea in the world, on the boundary between Europe and Asia, extending from 36° 40' to 47° 20' N. lat, and 46° 50' to 55° 10' E. long. Its let, and to S. is 680 m., and its breadth varies hetween 130 and 270 m.; total area 170,000 sq. m. It lies mostly in Russian territory, having Russia and Persia on the W., Russia on the N., the Transcaspian province on the E., and Persia on the S. The present sea formed part of a vast ocean which probably extended at one time to the Aretie Ocean, and united with the Black Sea in the W More recently the C. and Aral waters some feeting the C. and Alai Waters constituted a distinct Aralo-Caspian Sea, traces of whose existence are the high-level terraces (beaches), which surround part of the Caspian shore-line, and in deposits of the Caspian surround part of the Caspian shore line, and in deposits of the Caspian type of fossil-shells which are scattered was associated with his father in over the Post-Pliocene Karakum politics, and in journalism. He joined sands eastward as far as the meridian the fighting ranks upon the declara-of Merv. The coast-line i the principal indentations

navigation is difficult because of violent storms. Greatest depth in northern basin, 2526 ft., and in southern, 3006 ft. Its ehief tributaries

He | White Scas has been established by means of canals connecting with the It abounds in fish, notably Volga. salmon and sturgeon, which also supply the caviaro and isinglass manufactories on its shores. Many lines of steamers navigate the C., the ehief ports being Astrakhan, Baku, Guriev, Derbend, Petrovsk, Len-koran, Krasnovodsk, and Tehikish-liar in Russian territory, Astrahud, Meshed-i-Ser, and Enseli in Persia. The Russian-Caspian flotilla has its naval station at Ashur-ade.

Cass, Lewis (1782-1866), an American politician, horn at Exeter, New Hampshire. He entered the army in 1813, and in due course rose to the rank of general. For several years he was governor of Michigan, and in the year 1831 was made Minister of War. For a long period he was a senator, and in 1857 he obtained the position of Secretary of State, which he held until 1860. He wrote a history on the traditions and language of the Indians

in the United States.

Bernard Cassagnac, Adolphe de (1806-80), Granier French journalist, born at Avéron-Bergelle in the dept. of Gers. He started his career in Paris in 1832, writing to various papers defences of Romantieism, and Conservatism, and his ardent defence of Guizot brought him not a little notoriety, and was the cause of many duels. In 1840 he went to the Antilles, and while there married a Creole, Mademoiselle a Creole, Mademoiselle on. In 1852 he was elected Beauvallon. to the official candidature of the department of Gers. In 1868 he accused the Liberal party of opposing the emperor, and for having received money for that purpose from the King of Prussia, but was unable to produce other than false evidence when called upon to do so. He fled to Belgium in 1870 after the proelamation of the republic, but returned in 1876 for the elections, and was elected deputy. He wrote some historical works of not much importance.

of Mertviy Kultuk (W. Kaidak), Kenderli, Karabngas, and From there he returned to Paris in Balkan. The C. has no tides, but its 1872, once more associated himself 1872, once more associated himself with Le Pays, the journal of which his father was editor, and therein ardently upheld the Ronapartist. ardently upheld the Bonapartist cause against the Royalists and Re-publicans. In 1876 he was elected are the Volga, Ural, Emba, Terek, publicans. In 1876 he was elected Kura, and Atrek rivers. Communication with the Black, Baltie, and His policy was one of strife and

also, later on, his widow Roxana, and son Ægus. C. married Thessalonica. half-sister of Alexander, and (316 B.C.) founded the city which bears her name. He also rebuilt Thebes, which had been destroyed by Alexander. His son Philip succeeded him.

Cassandra, the most western of the three points of the Chalcidice Pen-Insula, hetween the gulfs of Salonica and C. In olden times it was named

Pallene.

Cassandra, in Greek mythology, as the daughter of Priam and Hecuba. She was loved hy Apollo, who promised to give her the gift of prophecy, if she would fulfil his wishes. But on obtaining the promised gift, she refused to carry out her promise. Thereupon Apollo, in revenge, laid upon her the curse that none of her prophecies should be believed. So it was in vain she fore-told the fall of Troy, in which she was captured and ravished by Ajax Olleus. She was afterwards murdered

Olicus, Sne was accepted by Clytæmnestra.

Cassano: 1. A tn. of Calahria, S.
Italy, 34 m. N. of Cosenza, and 6 m.
W. of Sibari. It is well situated, being above it is surmounted by an old castle, from which beantiful views are obtained. Warm sulphurous springs are found here. 2. A tu. on the R. Adda, Italy. The scene of two battles, one in 1705, when the French defeated the Irrapolalists and the defeated the Imperialists, and the other in 1799, in which the French were beaten by the Russians and

Cassans, a tn. in the prov. of Apulia, Italy, I6 m. S.S.W. of Bari.

Pop. 6000.

Cassation (cassare, in the Lat. of the jurists, to annul), a French word denoting 'the reversal of a judicial sentence.' The Cour de C. which received its full organisation under Napoleon, is the highest tribunal in France. It sits in Paris and hears appeals from all other courts excent

obstruction. In 1877 he was again martial. It consists of forty-nine imprisoned, and openly ineited MacMahon to rebellion, but the refusal of the latter, and the death of the Prince Imperial in 1879, ended his hopes in this matter. He was the founder of the journal L'Autorté, and wrote a life of Napoleon III.

Cassander (306-297 B.C.), King of Macedonia, b. 354 B.C., was disinterited by his father Antipater, in favour of Polysperchon. He entered on a struggle with his rival, aided in to three sections: (1) section des Requêtes, which examines whether the petitions or appeals are to be received; (2) section de C. civile, which decides livaded Macedonia. He put to death olympias, mother of Alexander, and invaded Macedonia. He put to death upon appeals in civil cases; (3) Olympias, mother of Alexander, and Section de C. criminelle, which decides upon appeals in criminal matters. The court does not decide upon the main question at issue, but only on the competency of the other courts to hear the particular case; and the legality of the forms and soundness of the legal principle by which the case has been already tried. Thus the functions of the Cour de C. are ordinarily restricted to errors of law and procedure, and strictly it is not a court of appeal at all; but in cases where evidence is adduced before it, which was not available in the court below, it may send the case back for a new trial or enter the appropriate judgment. This was the course followed in the Dreyfus case in 1906. If the law is found to have been violated, the decision of the inferior court is annulled and the case sent to be tried again by another court. If this second court decides the case in the same manner as the first. and which was not available in the court in the same manner as the first, and a petition is again laid before the Cour de C., then the three sections unite in order to examine the case anew, and if they in their turn annul the decision the case is sent to be yet another tried before Should this third court decide in the same way as the other courts, and a petition against the decision be again presented to the Cour de C., that court requests a final explanation of the law on the point at issue If the court from the legislature. refuses the demand for a re-hearing their refusal is final. If the court grants the demand the case is beard by the civil section, where, after tho point is argued, annulment is granted or refused. Three judges of the Cour de C. elected for three years by the other indiges of the court, are a contributer part of the Teibund des constituent part of the Tribunal des Conflits. The institution of the Cour de C. has proved highly beneficial to France. Placed by the nature of its office out of the immediate influence of political passions it has maintained appeals from all other courts except its reputation for strict impartiality the administrative courts. It may throughout all the changes of government appeals from courts ment and administration. Many of tbe most distinguished jurists of of an innkeeper at Manchester, and France are and have been numbered had only a poor education, but during To English among its members. constitutional ideas the one defect would appear to be the fact that it is not empowered to review the decisions of the official or administrative courts, a deficiency which seems to be incompatible with the immunity of citizens from arbitrary acts of state officials. According to Professor Dicey, bowever, this separation of ordinary or judicial from official or administrative powers works no injustice in France, partly owing to the enlightenment of French jurists, who assimilate administrative law much to ordinary law as possible, and partly to the French national temperament

Cassava, Mandioe, or Madioe, the namo given to two varieties of Manihot, a genus of Euphorbiaceæ. The plants are shrubs which grow to a height of about 6 ft. in tropical S. America, and their various products are very valuable. M. utilissima, the bitter C., contains a poisonous juice. but when it has been driven off the plant is wholesome; the roots are ground to make mandice or C. meal, also called Brazilian arrowroot, and the poisonous juice, or eassureop, is used as a condiment and preservativo. The roots are also specially prepared to make tapioca. M. Aipi, the sweet C., has also ediblo tuberous roots: they are non-poisonous, and are grated directly into food, both for men and cattle. Both varieties are

rich in starch

Cassel, 8cc Kassel. Cassel, Rt. Hon. Sir Ernest, G.C.B., G.C.M.G., G.C.V.O. (b. 1852), a retired financier, son of Jacob C., a banker in Cologne, where he received his education. He started life in a corn merchant's office in Liverpool, and upon leaving there he went to London, where he soon found employ-ment. In 1878 he married Annette, daughter of R. T. Maxwell, who died daughter the financed the great Assouan dam in Egypt, also the Swedish railways, and the Central London Tube Railway, which was opened in 1900. He raised a loan for China after the war with Japan, and assisted in the negotiating of three state loans for Mexico. In 1902 he presented to King Edward VII., with whom he had great friendship, whom he had great friendship, £200,000 for the building of sanatoria for consumptives, and Aug. 1910 he gave another £200,000 for the benefit and the retired f Casse!

his apprenticeship to a joiner, he contrived to gain much knowledge of English literature and the French language. In 1836 he came to London to work at his trade, but at this time his interests were mostly centred in the temperance cause. In 1847 he became a tea and coffee merchant. but soon gave up the business, and became an author and publisher. His chief ambition was to supply good reading matter for the working class. In 1859 he entered into partnership with Messrs. Petter and Galpin, and in time numerous editions of standard works were issued, also the well-known Working Man's Friend, Family Paper, and Popular Educator.

Cassia, a genus of Leguminose consisting of about four hundred shrubs, trees, and herbaceous plants found in Asla, Africa, and America. The leaves are paripinnate, the flowers zygomorphic, some of the stamens are often reduced to staminodes absent, and the pods have often a bitter, nauscous taste. Many of the species contain purgative properties, and yield the drug called senna, obtained either from the leaves or from the pulp of the fruit. C. fistula, the purging C. or pudding-plpe tree, is a small tree with large yellow flowers in long racemes, baving the appearance of a laburnum, and is found wild in India and tropical Africa. This plant yields the C. pods or purging C. of commerce: C. acutifolia and C. angustifolia yield the senna sold by chemists. C. lanceolala, the Alexandrian senna-plant, is found wild in Arabia, whence it is exported under the name senna of Mecca. C. Marilandica, the Maryland senna-plant, is valued for the purgative properties of its leaves.

Cassia Buds, the unexpanded flowers of Cinnanumum cassia, which yields the aromatic cassia bark used in the adulteration of cinnumon. In appearance they resemble cloves and in taste cinnamon, for which spice they are often used in confectionory.

Cassianus Bassus, a Greek writor of the 3rd or 4th century, to whom has been ascribed Geoponika, an agricultural treatise on rural economy. It is full of precepts extracted from ancient classical writers. An edition, with notes and index, was published by N. Niclas at Leipzig in 1781.

Cassianus, Joannes Eremita, Joannes Massiliensis (c. 360-448) gave another £200,000 for the benefit monk and theologian, one of the first of poor English people in Germany, founders of monasteries in Western Europo. He was probably born in Provence, but spent his early life in a monastery at Bethlehem. With his publishe, ing firm Cassell & Co., was the son Constantinople, and Marseilles, at

wlifeh latter place he founded two Victor, which is said to have sheltered 5000 inmates during his lifetime. After his death he was canonised, and for a lang time a festival was held at a certain seasan in his henaur at Marseilles. He apposed tha dectrines of original sin in mankind. lle wrote De Institutione Coenobiorum, and Callutiones Patrum, treat-Iscs on monastic life.

Cassicus, a genus af passcrifarm birds of the family leteride to which belang the American arlales or star-lings. The species are distinguished chiefly by their lang, straight, large, and sharply-pointed bills. Thay are gregariaus and feed an insects and

fruit. Cassidaria, a genus of gastrapad malluse allied to Cassis, the heimet-shell. The species are found in the Mediterranean.

Cassidides, a graup of calcaptoraus insects at the family Chrysamelide,

are smallish, oval in shape, brightlyceleured, and often metallie in ap-The larve eaver their bodies wit' take from

inscets, c.c. and same

Cassler's Magazine, was faunded by Mr. Louis Cassier in 1891, and pub-lished in New York. It was nated far being the first manthly publication devated only to engineering and selentific subjects. One of the mast striking features of the magazine is --- g the ecla-

ssier's have Sir J. Low-Beresford.

Dr. Andrew Carnegie, Mr. Thomas A. Edisan, Lard Kelvin, Sir Hlram Edisan, Lard Kelvin, Maxim, and Sir William White.

Cassini, the nama af an Italian family of astronamars and geagraphers, af wham faur generatians had charge of the abservatary at Parls.

Glovanni Domenica Cassini (1625-1712) was bern at Perinalda near Nice, and studied at the Jesuits' College, Genaa. In 1650, he was naminated prafessor of astronamy at Balagna University. His energies were great, and many discoveries were made by him. In 1657, ha was made inspector af fortifications by Pope Alexander VII., and in 1669 he was made director of Paris Observatary. He determined the ratatian periads af Jupiter, Venus, and Mars, discovered faur af Saturn's safellites and the division of that satellites and the divisian of that planet's rings, etc.

Jacques Cassini (1677-1756), son af religious hauses, ane a convent for the fermer, was born at Paris, and nuns, and the other the abbey af St. at the ago af seventeen was admitted as member af the Academy af Sciences. as memberal the Academy at Sciences. Two years later he was mada fellaw of the Rayal Saciety of Londan. In 1712, ha succeeded to his father's positian, and pursued various researches on the figure of the earth.

Clear François Cassini, de Thur, (1714-84), san of the preceding, was born at Paris, and succeeded to his father's pasitlan. Ha also continued the latter's surveying operations. He began the great tapegraphical map af France, which was later completed by his son.

Jacques Dominique. Comte Cassini (1748-1845), who also took an active part in the division af France inta departments. He helped

ta faund the Institute.

Cassino, a tn. in the pray, af Caserta, Italy, about midway between Romo and Naples. It is an the site of the ancient Casinum, which the Ramans colonised about 312 B.c. In the tewn are the ruins of a Raman amphitheutre, and many other ald buildings. On a bill behind, 1700 ft. stands the ald Benedletine manastery, knewn as Mante Cassina, founded by St. Benedlet in 529. It has been destrayed four times: 589 by the Langebards; in 884 by Saracens; in 1030 by the Normans; and in 1349 by earthquake. In 1866 it was dissalved, but some of the monks have stayed on there. church possesses an 11th century Byzantine branze daerway, alsa valuable frescaes, masales, and pletures. In the menastery is a theo-logical seminary, a pleture gallery, and a library of 40,000 vols.

Flavius Cassiodorus, Magnus Aurelius (c. 468 - c. 562), histarian, statesman and man af letters, was born at Seylaceum in Calabria of a distinguished family. He rese te positions of respansibility under Theodoric, being sale causul in 514. After the death of this prince in 526. he was chief minister for same years, but about 540 he retired from public life, and it is pessible that he then became a mank. Ha is our chief authority for the history of the Gathic kingdam of Rome. His chief works

are arur rum.

epitame. (Gk. Κασσιόπεια Cassiopeia and Kaggienea), a canstellation in the

great brilliancy blazed out here far ten days. Its brilliancy then dimluished, and at the end of sixteen battle of Philippi, and compelled his months it disappeared. According to freedman to slay him. the Greek fable, C. was the wife of Cepheus and mother of Andromeda, placed in the heavens with ber head from the pole, so as to turn round apparently upside down because, aecording to Hyginus, she boasted of her own beauty as superior to that of the Neroids.

Cassiquiari (Cassiquiare), a deep, rapid river of Venezuela, S. America, forming the Orinoeo's S. hifurcation. Issuing from R. Orinoeo it enters R. Guainia, a braneh of Rio Negro, near San Carlos, widening from 300 to 600 yds. It establishes water communication between the Amazon

and Orinoco rivers.

Cassiterides, a group of islands first mentioned by Herodotus as the place where the Phoenicians exchanged their wares for tin. They were fixed to the W. of Spain, and bave been identified with the Selly Is. and Cornwall, or the British Is. as a whole. Others have suggested various small islands off the Spanish coast.

Cassiterite, the principal ore of tin, and is the binoxide of that metal with sometimes a little peroxide of iron, manganese, and silica. Its common name is tin-stone. It is a black or brown crystalling substance, the crystal form being tetragonal prisms terminated by tetragonal pyramids. It has a brilliant adamantine lustre. To obtain the metal from the ore it is crushed and washed and then heated in a furnace with charcoal and lime to remove the oxygen. The metal so obtained is purified by first heating it upon the hearth of a reverberatory furnace until the more fusible tin melts and flows away from the alloys mixed with It as impurities. Afterwards it is stirred with green wood when the other impurities are earried off with the seum so formed. eonsist generally of copper and arsenie. Cornwall and Malaeca are the chief sources.

Cassius, Avidius (d. A.D. 175), a Roman general under Marcus Aurelius. He distinguished himself greatly in the Parthian War, and was therefore made military governor of Asia. In 175, Aurelius was m, and proclaimed himself emperor robe fastened at the strength of a runour of his robe fastened at the He was slain by his own before steps could be taken against tion of a girdle at the waist. For all orders of the English elergy black is

Cassius, Caius Cassius Longinus, was made prætor in 44 B.c. through the influence of Cæsar, and was promised the government of Syria. Yet he was one of the most active conspirators against Cæsar, and took part in the actual assassination. He

Cassius, Gaius, surnamed Longinus (d. 42 B.C.), was the motive force in the conspiracy which resulted in the death of Julius Cæsar. In 53 B.C. he served as quæstor in the Partbian War under M. Lieinius Crassus, and earned fame by bis masterly bringing off of the remains of the Roman army, after the defeat at Carrhæ. After the battle of Pharsalus, he bocame reconciled to Casar, whereas before he had sided with Pompey. For some time things went smoothly, but then he was offended at the appointment of M. Junius Brutus, whose sister he bad just married, as prætor urbanus. After the assassina-tion of Cæsar, he went to Syria and erushed Dolabella. When the triumvirate was formed, he was with Brutus at Philippi, and, his own wing being defeated, bo ordered his freed-man to kill him. Brutus lamented him as 'the last of the Romans.'

Cassius, Spurius Cassius Viscellinus, a Roman soldier and statesman, and founder of the first Agrarian law. He was three times eonsul, in 502, 493, and 486 B.C. His agrarian law so offended the patricians and other wealthy citizens that he was put to death by them: some say the dead was committed by his own father. But according to Mommsen, the

story is pure invention.

Cassius Parmensis, so named after Parma, where he was born. assisted in the assassination of Cosar, and after the battle of Philippi joined Pompeius. He afterwards went over to Antony, and when they had been defeated at the battle of Actlum, he was put to death by Augustus, 30 B.C.

Cassivellaunus, a British chieftain who ruled the district N. of the Thames at the time of Cæsar's second invasion (54 B.C.). After some British successes, Cæsar took the camp of C., and the chief was compelled to promise tribute and make submission.

Cassock (Fr. casaque), a military cloak. It was the name given in former times to the costume worn by soldiers, and it is not until a comparafore made military governor of Asia. tively recent date that the word was In 175, Aurelius was ill, and Cassius used in an ecclesiastical sense. The

the usual colour, though on some occasions purple is worn. In the Roman Catholic Church it varies in colour according to the rank of the wearer.

Cassowary, or Casuarius, the typl-cal genus of the ratite family Casuawas defeated by Anthony in the riide, which are found only in the species exist, which are generally divided into two groups, those with the helmet laterally compressed and those with a pyramidal helmet. The plumage of both sexes is a glossy black, the wings and tail are very small and the hen is larger than the cock. They are running birds with great powers of leaping, and when attacked they kick forward with their feet. They live in pairs in wooded districts and the cock usually incubates the eggs, about six in number, which the hen lays in a nest of leaves and grass. C. bennetti, the mooruk, is the most common species.

Cast, see Casting. Castagno, Andrea del (1390-1457), Italian painter, was born at Mugailo. He was a member of the Fiorentine school, but may be called a draughtsman rather than a painter. His works are hold, but are often deficient in

grace and delicacy. He died of the plague at Fiorence.

Castaidi, Pamfilo (1398-1490), an It, poet and humanist, born at Feitre in Lombardy. He founded a school there, which earned great renown among foreign nations, and in which he became the teacher of the Italian language, and literature. Some Italian writers, amongst them Bernardi, say that C. was the real inventor of printing with movable types, and that Johann Fust, who is supposed to have been one of C.'s pupils, and intimate friend, gave away the secret to Guten that in 1472, G the authority t press at Milan

urdi.

on Mt. Parnussus, sacred to Apollo and the Muses. It is named after C, daughter of Achelous, who threw herself into it to ende a way. herself into it to evade pursuit from Apollo,

Castalion, or Chasteillon, Sebastien (1515-63), Swiss Protestant theologian and humanist, was born near Bresse. In 1541 he visited Calvin at Strassburg, and in the same year the latter was him to be same year the latter was him to be same year the stranger of the same year the stranger of the same year the same year. latter made him head of the collego at Geneva. leave on account of small differ with Calvin, and lived in poverty at Basel, till he was appo professor of Greek in 1533. He

lished various works.

Australian regions and are closely S. France, and Italy the fruit of the related to the emens. About ten cultivated species is eaten raw, roasted, or ground into flour, and is extremely nutritious. The wood resists well the influence of water, and is well suited for mill-timber, water-works, and palings; the bark is used in tanning. C. vulgaris yields the edible sweet ehestnut, which is developed from three female flowers. whose nuts are enclosed in a prickly capsule.

Castanets (Fr. Castagnette, Ger. Kastagnetten, Sp. Castanuelas), musical instruments of percussion, intro-duced into Europe from the E. by the Moors, and are used in dancing. They are made of two hollow shells of hard wood, fastened together by a cord, which is passed over the thumb and first finger. They are used in pairs. one in each hand, and are struck against one another, which produces a series of elieks, thus marking the rhythm of the music. They were used by the Greeks and the Romans. to accompany their Bacchanalian dances.

Castaños, Don Francisco Xaver de. Duke of Ballen (1756-1852), a cele-brated Spanish general, born in Madrid. In early youth ho entered the army, and went to Berlin in order to study military tactics under Frederick the Great. In 1808 he defeated 80,000 French under General Dupont do l'Etan; at Bailen, but was himself beaten by Lannes at Tuleda the same year.

Castanospermum australe, the Australlan ehestnut, constitutes in itself a genus of the Leguminosa. The plant is a tree 30 to 40 ft, high, its foliage affords an excellent shade and the fruit when roasted resembles a chestnut in flavour.

Caste (from Portuguese casta, Lat. castus, pure, chaste), a term generally employed to denote the division of Hindu society into various sections or Cs. It has also been employed for any distinctions of class in any nations which have a similar exclusive effect. The system has prevailed in a greater or less degree among most peoples of tho world. There are few traces of it amongst the Germanie races, and the idea derived from Herodotus that the Egyptians had a C. system was ex-He was compelled to ploded by J. Ampere. However, it was its threefold

vers of Ahura (priests), Ra-

and Vastryas

Zend Avesta Castanea, a small genus of Fagaeeæ is a second in N. lands, the fruit of which is the chestnut. The horse-chestnut even now found in Africa and Poly-(Esculus hippocastanum) differs from nesia, and the state and the state this plant in order and everything but is of a state that it has a prickly fruit. In Spain, However, it is the state of the stat

According to a somewhat late hymn of the Rigveda, possibly interpolated, theorigin of the Cs is to be carried back to their hirth from Brahma, when the Brahmans sprang from his head, the Kshatriyas from his arms, the Vaisyas from his thighs, and the Sudras from nis feet. Originally, then, this may he considered the division. The Brahmans, or priests, have the sole charge of the sacred Vedas, they guide and advise the rest of the Cs., and offer sacrifices. They are to receive respect from all others, and to attain great heights of sanctity and purity. The Kshatriyas are the warriors, from whom now the Rajputs claim direct descent. It is their business to govern according to the advice of the Brahmans. The Vaisyas, or hushandmen, share with the two higher classes the privilege of hearing the Vedas, but, in practice, he soon hecame much closer related to the lowest class. The Sudras are the slaves, whose business it is to wait on and serve the three higher Cs. Their restrictions are too numerous to recite. It is probable that the three upper Cs., the twice-born, were subdivisions of the Aryan conquerors of India, while the Sudras were the aborigines. In process of time, much subdivision took place and the important rules relaxed. The member of one C. may now do the work of any other, but the regulations with regard to food are still maintained. No one may eat with persons of another C., or receive food prepared them. Several hundreds divisions are now catalogued, and each subdivision has its own elaborate rules. Not all the exertions of Western civilisation and religion have been able to break the system down to any extent. See report on 'Caste, Tribe. and Race,' in 1901 Indian Census Report: Sherring's Hindu Tribes and Castes, 1872-81; Muir's Sanscrit Texts, 1867-75; Burnell and Hop-kin's translation of The Code of Sanscrit Manu, 1884.

Castel, Castello (from It. castello, Sp. castillo, from Lat. castellum, diminntive of castra, camp), a prefix added to names of various towns, etc., in Italy, France, and especially in

Spain and Portugal.

Castelar, Emilio (1832 - 99). Spanish orator and statesman, born at Cadiz. He was educated in early years at a Grammar School at Sax. afterwards going on to the Madrid University. He at first studied law, hnt soon gave himself up to philo-sophy and letters, and in 1853 he took a doctor's degree. He became known

distinction is found in its most fully, and in 1864 founded La Democracia, developed form, and here it is most in which he wrote hitterly against the intimately connected with religion. government, and thereby lost his professorship. After an insurrection in 1866 he was condemned to death. but was able to escape to Paris, returning when the revolution of 1868 hegan. In 1873 he assisted in the downfall of King Amadeus, and the same year was made dictator by the Cortes, also resuming his professorship at the university. In 1874 he resigned his post in the Cortes, owing to hostilities there, and when at the end of the same year, Alphonso XIL was proclaimed King of Spain, he retired into exile for fifteen months. when he was then elected deputy for Barcelona. The remainder of his life he devoted to the study of history and philosophy. Among his early writings were Life of Lord Byron, The Religious Revolution, The Re-Among his early demption of Slaves, and others.

Castelbuono, a tn. of Sicily, 8 m. S.E. of Cefalu; it contains an old Benedictine monastery; also mineral

springs.

Castellidardo, a tn. and com. of Italy, situated in the prov. of Ancona, 10 m. S. of that place. A victory was won here by the Piedmontese over the papal troops in 1860. Pop. 6000.

Castelfiorentino, a tn. of Italy, in the prov. of Tuscany, situated on the river Elsa, about 20 m. S.W. of

the prov. of Tuscany, situated on warriver Elsa, about 20 m. S.W. of Florence. Pop. 10,000.

Castelfranco: I. A tn. and com. of Italy, in the prov. of Bologna, 16 m. N.W. by rail from the city of that name. The manufacture of matches is carried on extensively. The churches contain many valuable nictures of the contain many valuable pictures of the Bolognese school. Pop. 13,500. 2. Also a tn. in the prov. of Treviso, situated on the Musone. It is famons as the birthplace of the painter Clorion and the painter Clorion and the painter Clorion. Glorgione, and also for a victory gained by the French in 1805 over the Austrians. There are manufactures of silk and woollen goods. Pop. 12,500.

Castel Gandolfo, a tn. of Italy, in the prov. of Rome, and 14 m. S.E. of the city of that name. It is situated on a volcanic slope 400 ft. above Lake Alhano. Here in the 17th century Pope Urhan VIII. huilt a castle which

was used as a summer residence by the Popes until 1870. Pop. 2000. Castellamare: 1. A fortified and seaport tp. of S. Italy, 171 m. S.E. of Naples. It lies on a sheltered portion of coast on the Gulf of Naples, where it commands a magnificent view. In the 15th century it was pillaged by Pope Pius II., and again in 1654 by the Dnc de Guise. Its name is taken from the eastello which was built there in the 13th century by Emperor for his eloquence in political matters, Frederick II. The chief industries are the manuf. of cotton and macaroni. 2. A town in Sicily, 45 m. W.S.W. of Palermo. Trado in cotton, wine, corn, clive-oil, and anchovies. It stands

at the head of a gulf of the same name.

Castellamonte, a mrkt. tn. of Italy, in the prov. of Piedmont, 10 m. S.W. of Ivrea, and 20 m. N. of Turin. It has an old castle, and a large market-place. The principal industry is the manufacture of earthen-ware. Pop. 6000.

Castelian, the keeper of a castle in medieval times. In different countries his rank and office varied. In France and Flanders the owners of certain domains heid the title, which ranked

next to that of bailiff.

Castellana, a tr. of Italy, in the prov. of Bari, sltuated on the Adriatic coast. It is 26 m. S.E. of Bari, and 8 m. S.W. of Monopoli. Pop. 11,000.

Castellaneta, a tn. of Italy, 24 m. N.W. of Taranto. It possesses a cathedral, and is the sec of a bishop.

Pop. 10.000.

Pop. 10.000.
Castellazzo, a tn. and com. of Italy, in the prov. of Piedmont, 5 m. S.W. of Alessandria. Pop. 6000.
Castelleone, a vil. of Italy, in the prov. of. and 16 m. N.W. from the tn. of, Cremona, also 12 m. S.E. of Lodi. Pop. 6000.
Castellio, Sebastiano (1515-63), a theologian, born in Savoy. Ho studied at Lyons, and in 1540 became a teachor in a school at Genera. His religious viows, however, did not religious viows, howover, did not coincide with those of Calvin, to whom he owed his position, so he was obliged to resign, and went to Basic, Here he was appointed professor of Greek, 1553, and here he died.

Castello Branco, an opiscopal city of Portugal. It has an active trade in wine, olive oil, and eork, and possesses noted marble quarries. Many Roman remains bear testimony

to its great antiquity.

Castelio-Branco, Camillo, Visconde de Correia Botelho (1826-90), a Portuguese author, born at Lisbon. He lost both parents in infancy, and spent his carly years in Traz-os-Montes. He studied in Oporto and Coimbra, and began his career of letters in order to gain a livelihood. Later on he went to the Episcopal Seminary in Oporto with the Intention of entering the priesthood. Ho took orders, but his restlessness and want of stability forbade him keeping to one thing for any length of time, and in due course he resumed lils former occupation. Created viscount, 1885, in tion of his services to letters. in recogni-

Castello de Vide, a tn. of Portugal, in the prov. of Alemtejo and the

Abrantes. It has manufs, of cloth.

Pop. 5500. Castellón, or Castellón de la Piana:

1. A prov. of Spain in Valencia. bordering tlic onMediterranean. There are silver and lead mines and tles, etc. Fish-

. Pop. 311,000. above prov..

ters are

about 24 m. from the Mediterranean. watered

magnificent aqueduct, Canal de Castellón. The town has manufactures of linen woollen goods, earthenware. กทส paper, and fire-arms, and is a centre of exports of fruit and wine. In the Church of La Sangro are some fine works by the great paintor, Francisco Ritalta. Pop. 30,000.

Castelnaudary (Castrum Novum Arianorum, anet. Sostomagus). a tn. Novum of S.W. Franco, dept. of Aude, near the Canaldu Midi. It is finely situated, and possesses various interesting buildings. There are flour mills,

manufactures of earthenware, woollens, and foundries. Pop. (1906) 6650. Castelnuovo, or Novo, a scaport and eom. of Austria-Hungary, situated near the entrance to the Gulf of Brass is manufactured.

Cattaro.

Pop. 2000. Casteinuovo Berardenga, a tn. of Italy, in the prov. of Tuscany, about 10 m. E. of Siona. Pop. 8500.

Castel San Giovanni, a tn. and com. of thaly, in the prov. of Piedmont, situated on the Serivia, 13 m. N.E. by E. of Alessandria. Pop. 7000.
Castel San Giovanni, a tn. and com. of Italy, in the prov. of Piacenza, and 15 m. W. of the city of that name. Pop. 9000.
Castel San Piatro, a tn. and com.

Castel San Pietro, a tn. and comof Italy, in the prov. of, and 12 m. S.E. from the tn. of Bologna. Pop.

13,000.

Castel Sarrasin, a tn. of France, in the department of Tarn-et-Garonne, on the river Garonne, with manufactures of serge and worsted articles. Pop. 8000.

Castelvetrano, a tn. of Sielly, in the prov. of Trapani, and 25 m. S.E. of that place. It is chiefly notable for the production of white wines, which are considered the best in the island. Coral and alabaster ornaments are made, and there are manufs. of silk,

flax, and cotton. Pop. 20,000. Casti, Giovanni Battista 1803), Italian poet, was born at Prato in Tuscany, and early took orders. Ho taught for some time in the seminary at Montefiascone, but then gavo up his hope of advancement in the church and his canonry of the cathedral for the sake of travei. dlst. of Portalegre, 40 m. S.E. of the service of Joseph II. of Austria, capitals, and, on his return, that monarch gave bim the position of poeta eesareo, or poet-laureate. later life he resigned this position to avoid political strife, and settled at Paris as remain the

works are of tales in ottava rima, of which the plots are chiefly taken from La Fontaine and Boccaccio, and Gli animali parlanti, an elaborate poetical alle-

Castiglione, a tn. and com. of Sieily, in the prov. of Catania, and 25 m. N.E. of the city of that name. It is noted for the quantities of filbert nuts

grown there. Pop. 13,000.

Castiglione, Baldassare (1478-1529). Italian statesman and man of letters. was born at Casanatico, near Mantua, and received bis education at Milan. About the year 1500 he entered the service of Guidobaldo da Montefelbro. Duke of Urbino, whose court was one of the best and noblest in Italy. This prince sent him on an embassy to Henry VII. of England in 1506, and in 1524 he was charged by Pope Clement VII. with the difficult task of arranging a dispute between the sovereign pontlif and Charles V. This sovereign ponthi and charles V. This carried him to Spain, where he was later naturalised and became bisbop of Avila. He died at Toledo, brokenhearted, it was said, at Imputations of treaeberry which had been made against him. He was universally mourned, and Raphael's painting of him is well known. But C.'s createst layin to fame rests on his greatest claim to fame rests on his book, Il Corlegiano, written in 1514, which describes, in the form of dialogues, the composition of the ideal eourtier. It is one of the noblest ex-pressions of the Renaissance spirit. and has been translated into most European languages.

Castiglione, Carlo Ottavio, Count (1784-1849), an Italian philologist, (1784-1844), an Italian philologist, born at Milan. At the age of twenty-four, he published Monete enfiche del museo di Milano, an crudite work on the Kufie eoins in the cabinet of Brera. His chief work is Memoire Geographique et Numismatique sur la Partie Orientale de la Barbarie aprelée Afrikia nur les Arabes suits. pelée Afrikia par les Arabes, suivi des Recherches sur les Berbères atlantiques (1826), which attempted to give the history of towns in Barbary whose names are insertice in Alacateoins. In 1819 he edited a fragment of the Bible, translated into Gothie by Ulfilas, the MS. of which had been discovered by Cardinal Mai in 1817. Consult his Life by Biondelli (1856). Castiglione. Giovanni Benedetto whose names are inscribed in Arabic

Genoese sehool, known sometimes as of 1845 he was obliged to take refuge

he visited most of the European II Greehetto (the Little Greek), and sometimes as Lc Benédette, was born in Genoa, and studied under Vandyek. He painted landscapes and rural scenes, as well as historical pieces. His etchings are distinguished by light and shade effects. known work is 'The Animals entering the Ark.

Castiglione delle Stiviere, a city of Lombardy, Northern Italy, in the prov. of Como, 22 m. N.W. of Mantua. It is defended by an old castle, and is noted in history for a victory gained by the French over the Austrians ia 1798.

Castiglione Fiorentino, a tn. and com. of Italy, 10 m. S.E. of Arezzo. There is a Piarist college and also a large orphanage. Pop. 13,300.

Castile (Sp. Castilla, from castillo, a castle), a former kingdom of Spain, occupying the ceatral tableland of the peninsula. The highest mountains are the Sierra de Gredos (Plaza de Almangor, 8730 ft.), and the Sierra de Guadarama (Pico de Penalara, 8100 ft.). The average altitude of the northern plateau is about 2500 ft. Old C. or Castilla la Vieja occupies the northern district, and Now C. or Castilla la Nueva the southern part Cashlla ta Nueva the southern pair of C. The northern region is watered by the Duero and its affluents, but in the summer is very dry and barrea. In the S. flow the Jucar, Tagus, and Guadiana. The valleys are very fertile. Area 53,500 sq. m. The kiagdom of C. was formed during the 11th century, and was united to the kiagdom of Leon in 1230. In 1085 the Noovish kingdom of Toleda was care. Moorish kingdom of Toledo was captured and added to the Castilian Toledo became the capital. but Valladolid was also used as the royal residence. By the marriage of Ferdinand of Aragon and Isabella of C. In 1469, the two kingdoms became united ten years later. In 1492, by the conquest of Grenada, the whole of Moorisb Spain came under Christain rule. The chief industries of the inhabitants of Old C. are cotton and linen weaving and stock-breeding. Area 25,850 sq. m. Pop. (1900) 1,785,400. Olives, saffron, pulse, and grain are cultivated in New C. The

woollens. Pop. (1900) 1,923,310. Castilho, Antonio Feliciano, Castilho, Antonio Feliciano, Vi-conde de (1800-75), a Portuguese poet, born in Lisbon. He was blind from the age of six. In 1821 he published Cartas de Echo e Narciso. which attracted much attention. Amore melancholia (1828), A Prima-Consult his Life by Biondelli (1856), vera (1837), and O Outono (1863), Castiglione, Giovanni Benedetto are the poems on which his reputa- (1616-70), an Italian painter of the tion stands. During the revolution

inhabitants engage in stock-breeding

οſ

the manufacture

high reputation for scholarship and made a great study of ancient and modern history. He translated the Mctamorphoses of Ovid in 1841, and the Georgics of Vergil in 1865. Con-sult the Memorias by his son, Julio de Castilho (1881).

Castilla la Nueva (New Castile), one of the historical divs. of the Iberian peninsula, tho other being Castilla la Vieja (Old Castille). It comprises the five provinces of Guadalajara, Ciudad Real, Madrid, Tolcdo, and Cuenza. It was in anciont times inhabited by the Celtiberian tribes. Arca about 53,000 sq. m. See Cas-

TILE. Castilla la Vieja (Old Castile), ono of the historical divs, of the Spanish peninsula, the other being Castilla la Nueva (New Castile). It comprises the eight provinces of Paloncia, Valladolid, Avila, Soria, Logroño, Segovia, Santander, and Burgos, and. in the form of an elevated plateau, extends as far as the Bay of Biscay.

Sec Castile. Castillejo, Christoval de (c.1494-1556), a Spanish poet, horn at Cindad Rodrigo, Salamanca. He was attached to Emperor Ferdinand I., brother of Charles V., first as a page and later as secretary, and spent many years in Germany. His poems were first edited in 1573, and later in 1598 and 1600. He strongly opposed the poetical innovations of the school of Boscan. which sought to introduce Italian metres, such as the sonnet and the terza rima, into Spanish literature. His poems are written in a gay or satirical vein, and have plenty A complete edition of his

1792, Castillo de Locubin, a tn. of Spain, in the prov. of Jaen, and 18 m. S.W. of the tn. of that name. Pop. 5500.
Castillon. a tn. in the dept of Gironde, Franco, on the R. Dordogne, 33 m. E. of Bordeaux. Here in 1453 the English were defeated (see Shakespeare, Henry VI., Act iv.), and in the neighbourhood is the château where Montaigne passed the later years of his life.

works were published in Madrid in

eess of

shape

into m and take up the shape of the moulds. The art finds its application in the manufacture of iron Cs. (founding) of every description, of statues (in which case bronze is the metal usually cm-ployed), of type for printing pur-poses, of plaster casts, and in a some-metal bars. The pattern being taken

in the Azores, and did not return to what different manner in the manuhis nativo land till 1863. His play facture of chinaware and pottery. Camoens, adapted from the French, The C. of bronze vessels and images was completed in 1849. C. won a is a metallurgical process of great antiquity. It was a well-known art Egypt, ancient many bronze statues belonging to this period having been discovered. From many passages in the O.T. it is evident that the Israelites were familiar with the arts of inctallurgy, vessels and ornaments being east in bronze for the furnishing of the Temple. Little is known, however, of the methods employed by the ancients in the C. of metal articles, and it is probable that the treatment of metal by smiths' work was more common. The manufacture of cast iron is of compara-tively recent date, one of the most important uses to which the latter was first put being the manufacture of cannon. In the reign of Queen Elizabeth several large foundries oxisted, wood furnaces being exclusively used. Owing to the use of wood as fuel the first foundries were always built near forests, and it is on this account that Sussex became the seat of an iron-smelting industry. though this industry has long been extinct, many relics of it occur in Sussex cottages and farmhouses in the form of old-fashioned fire grates. originally east in the locality. furnaces are particularly well adapted for smelting purposes, as wood does not contain the chemical constituents which cause coal to react in a harmful way with the molten metal, and the superiority at the present day of iron smelted in Sweden is due to the fact that wood is used as furnace fuel in that country. The increasing demand for cast-iron articles and the limitations of the timber supply, however, resulted in the introduction in the beginning of the 17th century of tho use of coal for smelting purposes. The iron being reduced from its ores and procured in a molten condition, the process of C. is in brief as follows: The foundry floor is covered several feet deep in sand, and pits of sand are arranged where the moulds are to be To construct a mould it is placed. first necessary to obtain a pattern of the article to be east, and pattern making forms of itself an important craft. An exact model of the article Casting, the name given to the pro- to be cast having been made, this is sed down into the sand and the

rammed tightly around it so on withdrawing the pattern a cavity the exact shape of the article Precautions aro required remains. made to ensure the mould retaining its shape, special qualities of sand or

may flow direct into it hy means of channels made in the sand. The mould in order to keep it firm. The work is covered with a layer of sand and left to cool and solidify. The mould is then scraped off, and the aimed at is the making of a pattern which can be easily taken out from the mould without damaging it. It is evident that in many cases the shape of the pattern would render this im-possible were it made in one whole piece. The pattern is therefore carefully constructed in sections, with joints so situated that the parts can be extracted from the mould without fracturing the latter. In many cases a 'core' is used by means of which the thickness of the cast may be regulated. The mould being made as hefore, a substance, usually elay, is pressed into it, so as to form a layer inside the mould of the thickness which it is required that the metal C. shall be. The remainder of the mould is then filled up by means of plaster of Paris, and this on setting constitutes the core. When the whole is set and dry the mould is taken to pieces, and the clay or other material used as an intermediate layer is removed. The mould is then put together again and the core fixed in position. On allowing the molten metal to enter, it fills up the space hetween core and mould and a cast of the required thickness results. The introduction of machine moulding, in which the mould and pattern are manipulated by machinery, has re-sulted in the attainment of a higher degree of accuracy in the manufac-ture of Cs. than was formerly the case. Casting Vote, the vote given by the

chairman of any assembly when the votes for and against any proposition and resolution happen to be equal, and therefore the deciding vote. Where the chairman has already

out, the mould is then thoroughly voted he may yet be entitled to freed from moisture, this precaution a second or C. V. The privilege is heing necessary to avoid explosions given to the chairman of a borough caused by the instantaneous generation of steam at the high temperature caused by the introduction of the molten metal. Neglect of this precaution has resulted in the wrecking Garadians whether he the chairmore of a whole foundry. The mould is man of the hoard or not, and similarly, in the case of a parish council molten metal, and also to allow for or parish meeting under the Local molten metal, and also to allow for or parish meeting under the Local the escape of the air displaced by it, and it is placed near the furnace in an incorporated joint stock company such a position that the molten iron is usually entitled to a vote not only ns of as a principal and proxy, but also to The a C. V. on an equality of votes at any channels made in the sand. The a c. v. on an equanty of votes as amental is allowed to run in until it general necting of the shreeholders overflows the channels, the sand being in the House of Commons, if the meanwhile rammed down around the members in a division are equal, the mould in order to keep it firm. The speaker must give the C. v., otherwise work is covered with a layer of sand man of any standing committe of the House has been entitled to a C. V. To mould is then seraped oil, and the House has been entitled to a C. v. 10 cast is chased and worked up for the prevent any imputation of partiality purpose for which it was designed. The making of patterns is one of the most important treatts connected with care, where possible, to vote in such the C. industry. The object to be a way as to leave room for a further aimed at is the making of a pattern discussion by the House. According which can be easily taken out from the absolute of parliament the absolute of a select committee. the chairman of a select committee has a C. V., but no other vote. In regard to all questions before Private Bill Committees the chairman has a second or C. V. In the House of Lords the rule in regard to the vote of the chairman of committees is different; although he may record a vote like any ordinary member, he has no C. V., the result being that the question is decided in the negative.

Cast-iron, see IRON Castle (Lat. castellum, diminutive of castrum, a fort; Fr. castel; It. castello; Sp. castello; Dan. kustello, a fortified building, a fortress. Before the Norman Conquest Cs. were almost unknown in England. The earliest pre-Norman fortresses consisted of earthern ramparts or rows of palisades erected on a naturally strong and commanding eminence. The site was defended either by difficulty of access, such as that presented by an escarp-ment, or by water, generally a river or a lake. These natural defences were supplemented by artificial ones, such as a mound dug out of the ground surrounding the spot; this device provided also, at one and the same time, a ditch. Sometimes primitive edifices were constructed upon piles. The 'lake-dwellings' and 'hill-forts' of Scotland are examples belonging to this period. The Barmekin of Echt in Aberdeenshire is a type. In England there are the forts of the Hereford-shire Beacon in the Malvern Hills. In these spots traces are to be seen of circular stone walls surrounded by ditches. The oldest Cs. of which reburgo C. In formshire, which is barry. Round the hisho of the inner nearly contomporaneous with this, wall were offices for retainers and may be British; it is probable that the inner keep is of Saxon origin, and that the outer walls were built by the stollers, graneries, storehouses, etc. Inner keep is of Saxon origin, and that the outer walls were built by the stollers, graneries, storehouses, etc. In the wall of the outer bailey was from the Normans. Later come Saxon Cs., like was surmounted by a parapet at least that of Castleton in Derbyshire. When William the Conqueror returned to Normandy in 1067 he left England in the hands of Odo of Bayeux and Fitz-Osbern with orders to build Cs. at all-important points. Wherever a portion of the country was conquered there a C. was built to secure the conquest. These fortresses were like those of France of the

y, Beaugeney, ont, Chamboy, for example. By the end of the reign of Stephen 1115 of these Cs. had been built. Each C. was the impregnable stronghold of a Norman baron who used his power and position, not only to protect himself against the attacks of those English who had been despoiled of their lands to provide a reward for hlm, but to oppress in every way the conquered people. William of Newbury says: 'There were in England as many kings, or rather tyrants, as lords of Cs.' Indeed, so great was the abuse that a treaty was made between Stephen and the Duke of Normandy (afterwards Henry II.), that a certain number of the Cs. should be demolished within a stated time; this was done, but not to the extent stipulated. The Norman C. was built generally on an eminence, and on a bank of a river. Its most characteristic feature was its a tower or 'fore-work' in which was a stone staircase. This first floor was lighted by loop holes in the walls, and here were the soldiers' apartments. the guard-room, etc. On the second floor was the baronial hall, where the governor and his retainers took their meals. Above this were the rooms massacred the English gused by the governor and his family; in 1798 the French Gener this floor was lighted by small round-headed Norman windows. Tho top facetiously called the was crowned with battlements. Ontslde the keep and surrounding it was

mains of any importance still exist a courtyard, called the 'inner bailey;' are of Roman origin. Riehborough C. this was divided by a wall from a in Kent is the best example. Conis-second courtyard called the 'outer burgh C. in Yorkshire, which is bailey.' Round the inside of the inner its crenellated embattlements pro-teeted the defenders of the C. who discharged arrows, darts, and stones through the crenelles. At the angles of this fortification were the square or round towers called bastions; in or near one of these was the postern gate for the egress of messengers during a siege. The main gate was of enormous strength, flanked by towers and closed hy a portcullis. Surrounding the whole fortress was a deep ditch or fosse, crossed by a drawbridge. tween the ditch and the principal entrance there was often a high hattiemented wall eailed a barbacan, to defend the gate and the drawhridge, which could be pulled up against it, thus cutting oil communication.

Castle, Egerton (b. 1858), an Engiish author, educated at the universlties of Paris, Glasgow, Cambridge, and at the Royal Military College, Sandhurst. He was a lieutenant in the 2nd West India Regiment, and captain in the Royai Engineer Militia. He is a grandson of Egerton Smith, founder of the Liverpool Mercury, and captain an agree its amplementary with the Design since its amalgamation with the Daily Post has been a director of Liverpool Daily Post, Mercury, and Echo, Ltd. From 1885-94 C. was on the stan of the Saturday Review: till 1901 he was a member of the managing committee Its most characteristic feature was its innermost and strongest patr—the keep. This was a square or oblong tower, the wails of which, built of Light of Scarthett. 1895; Young stone and mortar, were very thick; April, 1899; The Secret Orchard indeed, these solid walls were its chief defence. The basement was vaulted, and in collaboration with his wife, no provision was mado for the ending only by very narrow openings in the walls. Here were the store-rooms and the dangeons for prisoners. The character to the keep was usually on the first floor, admittance being gained either by a ladder or through a tower or 'fore-work' in which was for Mansfield. He bas also published a tower or 'fore-work' in which was included: Consequences, 1891; The society of Authors. His novels of the Society of Authors. His novels of the Society of Authors. His novels the consequences, 1891; The society of Authors. His novels of the Society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The society of Authors. His novels include: Consequences, 1891; The Secret Orchard include: Consequences,

(with Polioek), and Desperate Remeures for Mansfield. He has also published books on feneing and bookplates.

Castlebar, eo. th. of co. Mayo in Ireland. It is an important market town for agricultural produce, and there are also breweries and somo trado in linen. Here in 1641 the Irish massacred the English garrison, and in 1702 the French General Humbert. in 1798 the French General Humbert defeated the English in a battle facetlously called the Castlebar

Castlecary: 1. A market town of

Somersetshire, England, 12 m. N.E. of Yeovil. There are manufs. of twine, horse-hair seating, etc., also brickworks. Pop. 3000. 2. A parish brickworks. Pop. 3000. 2. A parish of Scotland, 6 m. S.W. of Falkirk. It is the site of a fort which defended the wall of Antoninus.

Castlecomer, a tn. of Ireland, in the co. of Kilkenny, and 10 m. from the tn. of that name. It is situated on the river Dinin, and is a most important coal-mining centre.

2000.

· Castle Donington, a market tn. of England, in the eo. of Leicestershire. overlooking the Soar and Trent valleys. It is 21 m. W. of Kegworth by rail. There are manufactures of hosiery, silk, and baskets. Pop. 3000.

Castle Douglas, a market tn. and bor. of Scotland, situated in Kirkeudbrightshire, on Carlingwark Loch. The sheep and cattle sales held here

are noted. Pop. 4000.

Castleford, a tn. in the West Riding of Yorkshire, England, situated on the river Aire, 10 m. S.E. of Leeds, It is a colliery district, and there are chemical and glass works, also Roman relies have been notteries. discovered in places uear by, and the Roman road, Watling Street, passed through the district. Pop. 17,400. Castle Garden, a circular fort in Battery Park, New York City. It was

built in 1807, and was originally ealled Fort Clinton, and was used for public functions. It was the head-quarters for immigrants from 1855 till 1890, when it was equipped as nn aquarium.

Castleknock, a vil. on the Liffey, co.

mines near were among the first to be opened in the colony. Pop. 8000.
Castlereagh, Robert Stewart, Viscount, second Marquis of London-derry (1769-1822), an eminent English statesman. He was the second son of Robert, first Marquis of Londonderry. and was educated at St. John's College, Cambridge. He sat in the Irish parliament in 1790, and was appointed keeper of the Privy Seal in 1797, and Chief Secretary for Ireland 1797, and Chief Secretary for Ireland in 1798. C. actively supported Pitt in bringing about the union between England and Ireland, and on entering the Imperial parliament, he became Secretary of State for War (1805-6). On the death of Pitt, he resumed office under Portland. The fallure of the Walcheren expedition (1809) brought, alout a quarrel be-(1809) brought about a quarrel be-tween C. and Canning, the Foreign tween C. and Canning, the Foreign stances, has a bitter taste and n Sceretary, which resulted in their restrong, penetrating, and enduring

tirement from office, and in the duel which took place the latter was wounded. In 1812 C. became Foreign Secretary under Lord Liverpool; It was during his period of office that Wellington won his brilliant victories, the success of the campaign of 1812-14 being largely due to C.'s stead-fast and energetic policy. He re-presented England at the Congress of Vienna (1814-15), the Treaty of Paris (1815) and the Treaty of Aix-la-Chapelle (1818). The despotic measures resulting from his domestle policy were extremely unpopular. He was regarded as being responsible for the 'Peterloo massacre,' and the 'Six Aets' (1819), and few statesmen have been so hated by the general public. Harassed by affairs, in a fit of insanity, he committed suicide with a real rate of the state of th with a penknife at his Kentish seat, Foots Cray. As his coffin was being carried to Westminster Abbey, a shout of joy came from the crowd in the streets. C. was undoubtedly a harsh ruler, but the years of peace that followed Napoleon's fall were largely due to his wise diplomacy. Consult C.'s Correspondence and Dispatches, edited Vane (12 vols. 1847-53); the Lives by Sir A. Alison (1861) and by the Marchioness of Londonderry (1904); and Lord Salisbury's Essays (republished 1905).

Castleton, n vii. in Derbyshire, England, 13 m. W. of Sheffield. It is situated at the foot of a lill, on the summit of which stands Peak Castle, creeted by William Peveril, the natural son of William the Conqueror.

Dublin, Ireland, 5 m. from Dublin; In the neighbourhood are the Peak the Under-Seeretary for Ireland has his residence here. Pop. 5000.

Castlemaine, a tn. of Talbot co., in the State of Victoria, Australia, on Forest Creek, and on the railroad from Melbourno to Ecbuca. The gold-the isle of Man; in the extreme S. of from Melbourno to Ecbuca. The gold-the island, on the W. coast of C. Bay, wines near were among the first to be 1 m. S. W. of Downley Express a register. the Isle of Man; in the extreme S. of the island, on the W. coast of C. Bay, 9 m. S.W. of Douglas. From a rock in the centre of the town rises Castle Rushen, said to have been errected in 960 by Guthred II. of the Orrys Kings of Man. It was once the residence of kings, and was besieged for six months by Robert Bruco in 1313. The castle has now been converted into a prison and barrack. King William's College, in the vicinity, is a payallost cased for large College, in the college in the college. an excellent school for boys. C. is n popular resort for tourists. Consult Fitzgerald, Castletown and its Owners' in Küldare Archwological Journal, vol. ii. (1898).

Castor, or Castoreum, a reddish-brown substance obtained from the beaver, being contained in two pear-shaped pouches near the organs of reproduction. It contains eastorin, saliein, benzoic acid, and other sub-

Formerly it was much esodour. teemed as a medicine, being used in the form of a tineture as a stimulant and antispasmodie, but it is now used

only in perfumery.

Castor (a Geminorum), one of tho two bright stars in the head of the twins 'which form the constellation Gemini. It is a doublo star, that is to say, it consists of two stars so close togethor as apparently, to the naked eye, to form one star. The two component stars are nearly equal in size, and together form the appearance of

a third magnitude. Castor and Pollux (Gk. Πολυδεύκης), twin gods of Greece and Rome, known as the Dioscuri. According to Homer, they were the sons of Leda and Tyn-darcus, King of Lacedæmon, and brothers of Helen and Clytemnestra. According to another version, Zeus appeared to Leda in the form of a swan, and she bore two eggs, from one of which came P. and Helen, chil-dren of Zeus, and from the other C. and Clytæmnestra, children of Tyndarcus. Thus P. was immortal, darcus. Thus P. was immortal, eauses only evacuation of the bowels, while C. was subject to old age, siekness, and death. They both took part in the expedition of the Argonauts, varies from a teaspoonful to two darking within P. State of the charge of th during which P. slew Am; in consequence became fan bexer and wrestler. C. was for his horsemanship. war upon the Athenians t their sister Helen, who had been carried away by Theseus. C. and P. dyeing, and in India as an illuminant. Castration, the operation of removed the cast of the cast of the testicles or reproductive and Idas, sons of Aphareus, and in ing the testicles or reproductive ing the battle that ensued C. was siain by organs of the malo for various purties battle that ensued C. was siain by organs of the malo for various purties. In human beings it is generated in the poses. In human beings it is generated in the Apharldæ, and the both the Apharidæ, and the sought Zeus to grant immortali his brother. Zeus allowed the

among the stars as Gemini. Dioseuri were worshipped as protee-"~~ed |

ıey were always represented ns riding white steeds, with a star shining on their helmets.

Castoreum (Gk. κάστορ, beaver), a substance which is scereted by beavers of both sexes in two glandular sacs at the posterior part of the trunk. It is at first about the consistency of syrup, but when dried becomes solid, losing some of its odour and activity. Formerly this substance was considered to be beneficial in spasmodic diseases, and was also used as a stimulant, but it is now employed chiefly by perfumers.

family of the sub-order Simplici- also in Helsingfors. He was intensely

It contains dentata of the rodents. a simple living genus, Castor, the heaver, one species of which is European, the other N. American. Many extinct forms of this family are found

Castor Oil, a heavy viseid natural oil obtained by crushing the seeds of the C. O. plant, Ricinus communis. These are first rolled, and then placed in hempon bags and subjected to high pressure by which the oil is squeezed out. The plant is grown chiefly in Indin, the greater part com ng throug Clatte but it calso grown in the and Italy.

glyceride of ricinoleic neid, and is

soluble in alcohol, the specific gravity varies from 960 to 968, and the freezing point from 10° to 18° C. The best is 'cold drawn C. O.,' which is extracted without heat and is pale yellow or nearly colourless and almost tasteless. It is used in medleine as a safe non-irritating purgative, the most suitable for young children.

a disagrecable taste, it visable to mix it with re palatable, such as julce. The raw oil is

reasure practised on become cunuchs or harem or seraglio. also performed on

The horses, pigs, sheep, and cattle. effect is much the same in all male animals treated in this manner. If at it is done before puberty the masculine qualities are not developed. In human males the voice does not break hip nor the hair grow upon the face; in sheep and cattle the horns are either not formed or they take a shape similar to those possessed by females. castrated cock does not crow, and its feathers are changed in character.
Reproduction is quite impossible. If
the operation is performed after
puberty, it is often dangerous in its effects, the change is slow in the masculine qualities, and procreative power is not immediately lost.

Castren, Mathias Alexander (1813-52), the founder of Ural-Altaian philology, born at Tervola, in N. Finland. He studied in Tornca and

language and literature of his country. For this purpose, he journeyed on foot through Finnish Lapland in 1838 and through Karelia in 1839, collecting ballads and songs of Finnish mythology. As a result of these excursions he published De Affinitate Declinationum in Lingua Fennica (1839), and a Swedish translation of the epic Kalevala (1841). With Lönnrot, he continued his literary researches in Finland, Norway, and Russia (1841-45), and worked at the St. Petersburg Academy (1845-49). In 1851 be was appointed professor of the Finnish language and litera-ture at the university of Helsingfors. Many of his lectures have been published and translated into German. He was an enthusiastic scholar, and indefatigable worker, and his death at so early an age was mainly due to over-exhaustion. Consult the Life by J. W. Snellman in Samlade Arbeten, 1892-1901.

Castrense Peculium (Lat. peculium) literally denoted property in cattle (from pecus, cattle), but came to be nsed of the private property of a wife, or that which is given by a father or master to his child or slave. According to Roman law a man had no property independently of his father, but C. P., that is monoy acquired by military service (Lat. castra, a camp), was regarded as the private property of a son. Later a man was allowed to be sole possessor of any professional earnings, and of property inherited through his mother, in which cases was known as quasi-eastrense

peculium. Castres, a tn. in Tarn, France, 46 m. E. of Toulouse. It is situated on both sides of the R. Agout, which is spanned by stone bridges. It is thought that the town is on the site of an old Roman camp, hence its name; but its history goes back to the foundation there of a Benedictine abbey in 647. In the 16th century it was a Huguenot stronghold. town is beautifully kept, and has an important trade in manufactured goods, leather, paper, dyeing, ma-

chinery, parchment, etc.
Castries, or Port Castries, the cap.
of the island of St. Lucia, W. Indies. It is situated in Carenage Bay and makes an execulent port and harbour. It has an extensive commerce, largely in sugar and cacao. Pop. 8000.

Castro, the modern name given to the chief towns of certain islands in the Greek Archipelago, viz., Chios, Limno (Lemnos), and Mitiline (Mytilene), which are otherwise known by the names of the islands.

Interested in Lönnrot's publication, Spanish theologian, born at Zamora. of Kalevala, and began to study the He entered the Franciscan order, and became private chaplain to Philip II., whom he accompanied to England in 1554 for the purpose of negotiating a marriage between that monarch and Queen Mary. He wrote a Latin work on heresy, entitled Adversus omnes hæreses libri xiv., 1534.

Castro, Cipriano or Cypriano (b. c. 1855), a Venezuelan military leader and ex-president, born in the Andean province of Tachira. His parents His parents were Spanish mestizos of the peasant class. He early took an active part la local politics in Capacho, as a Liberal, forming a party called 'Castristas.' In 1866 C. was successful in the 'battle of Capacho' against Morales, who was local ropresentative of the Lopez government. During Crespo's rebellion against Andueza Palacio (1892), C. supported the latter and the government, winning a battle in The insurgents were, how-Táriba. retired from it on the fall of President Palacio. In 1899 C. headed a rebellion against Crespo's successor, President Andrade, the first skirnish taking place between San Cristóbal and Rubio. After engagements in Las Plias, at Zumbador and San Cristo-bal, he pushed his way on to the capital, Caracas, whence Fernandez had been despatched against him with a strong force. Andrade fled Curação, and C. declared himself jefe supremo (supreme military leader). He was made provisional president of Venezuola by the constituent assembly (1901), and in 1902 was formally elected president for six years. His administration was marked by numerous uprisings, first that of Hernandez, then that of Peraza, and finally that headed by Matos (1902-3), who tried to win the support foreign governments. Thore were also disputes with European powers (1902-1903), with Colombia, and France (1905). C. proved himself a shrewd and resolute leader in all his dealings. He resigned his presidency in 1906. See VENEZUELA.

Castro, Inez de (d. 1355), a Spanish noblewoman, whose sad story has been used by poets and dramatists. In 1340 she lived with her cousin, Costança de Paza, the betrothed wife of Dom Pedro, the son of Alfonso IV. of Portugal. On the death of her cousin in 1345, she sceretly married Dom Pedro. Alfonso, fearing that this union would be injurious to Ferdinand, the young son of Costança, ordered her to be put to death. When Dom Pedro ascended the throne in 1357 he avenged her death, and nee), which are otherwise known by a coording to one tradition, ordered castro, Alfonso (c. 1495-1558), a his nobles to pay homage to her

Alvaro de C., governor of Lisbon. A be reckoned his Pagor en propria brilliant classical scholar and keen Moneda and La Justitu en la Piedad, mathematician. Had the same tutor C. betrays the characteristics of the as Emanuel the First's son, the Infant | Spanish writers of romance | His style Don Luis, who had a life-long attachment for his young playmate. They is the romantic atmosphere so peculiar were both present at the siege of to the old Spanish Romanceros. He Tunis in 1535. Upon his return to died in great poverty. Lisbon, C. received from the king a commission for the command of Sar Pablo de Salvaterra in 1538. C. was brated Italian general and soldier of a man always contented with small fortune abroad. In the early years of means, but thirsted to do deeds of his career he served successively in bravery. He married a noble Portuguese lady who was equally indifferent was a staunch Ghibelline, and the to wealth. Sailed to the Indies and joined the aventureiros for the rebef

Castro del Rio, a tn. in the prov. of Cordova, Andalusia, Spain, on the r. b. of the Guadajoz. Part of the old walls and a Moorish castle remain. There are manufactures of woollen goods and earthenware. Pop. 12,000.

m. 📏 on

Enna. In the neighbourhood is Lake Pergusa, which is associated with the Proserpina myth. There is a fine cathedral (founded in 1307), an ancient citadel, La Rocca, and a castle built by Frederick 11. of Aragon. The chief trade is in rock-salt and sulphur. Pop. 26.000.

Castroreale, a tn. in Sicily, on the Castro, 12 m. S.W. of Milazzo. It has hot sulphur springs. Pop. (commune)

10.300.

Castro-Urdiales, a tn. in the prov. of Santander, Spain, on the Bay of Biscay. The chief industry is fishing, and fish and timber are regularly exported briga. The town was sacked by the French army in 1813. Pop. 13,000.

Castrovillan, a tn. of Italy, in the prov. of Coscnza, Calabria, situated in a fertile valley. Olive oil is the chief production, and the manufacture of casks is carried on. Pop 11,000.

exhumed body. See Camoens' Lusia- | Vega, to whom he was greatly iu-das. | debted for his style. He wrote some Castro, João de (1500-48), son of forty plays, chief among which may

Castruccio-Castracani, a nobleman of Lucca in Tuscany, b. 1284; a celeof their republic. In return for his joined the arentureiros for the reperjot their repution. In return to, and of Diu. In 1543 C. undertook the task services as adviser in his campaign of clearing the sea of pirates, and against the Guelphs, the Emperor later on again he was sent out to the Louis of Bayaria made him Duke of Indies, where he ultimately received Lucca, Pistoja, Volterra, and Lunithe appointment of viceroy. He ungrana, as well as Count Palatine. At fortunately died soon afterwards. carried on a war against the Florentines for fifteen years, at the end of which he died, on the very point of winning for himself a magnificent position as supreme authority in Tuscany, 1328. His death was a fatal blow to the Ghibelline party in Italy. Machiavelli's hook, Castruccio-Castracani, is more a work of imagina-tion than a history of facts.

Castuera, a tn. and com. of Spain, in the prov. of Badajoz, situated near the Guadalija, with a trade in wines

and fruit. Pop. 6260.
Casual Poor, a term used in England to denote those who receive relief occasionally according to the Poor Law, but are not enrolled as

paupers.

Casualties. In law of Scotland, 'C. of superiority,' now virtually obsolete, were certain occasional payments analogous to ancient feudal dues, paid to the superior lord by a tenant for the recognition of his tenancy. The only C. now in use are to Madrid. To the Romans under those payable to the superior in conse-Vespasian it was known as Flavio-quence of the transmission of the feu (fief or tenancy) by sale or succession to a new vassal. The payment made by an heir on taking up his estate was known as a C. of relief (Lat. relevo, to take up). The Conveyancing Act, 1874, makes C. fixed, and not 'casual' or accidental, payments in the absence Castro y Bellvis, Guillen de (1569- of express stipulation to the contrary. C such as now exist may be redcemed

payment of certain capital sums. Casuarinaceæ, an Australian order rowed his materials for his tragedy to Dictyledons containing the single Le Cid. C. was a Valencian by birth, and soon came into prominence as a trees somewhat resembling the Equiman of letters. He lived at Madrid, setum in appearance, the branches and famous Spanish dramatist Lope de wiry, with channelled internodes and

and two perianth-leaves, while the female consists of two syncarpous carpels, which form a unifocular ovary. The stameus and styles both hang out over their bracts and are wind-pollinated. The male flowers are the two the syncarpolar than the syncarpolar horne in terminal spikes and the females resemble a pine-cone in appearance. The wood of the plants is called beef wood, and is of excellent quality, and the young shoots afford fodder for cattle.

Casuistry (Lat. casus, instance. point of law), the art of hringing moral principles to bear in particular cases applied morality. From the 7th to the 11th century The Penitential Book was used as a guide for conscience. Moral theology began with the schoolmen of the 13th century. Secunda Secunda of Thomas Agulnas is a well-known work on moral theology, but too scientific for general use. The science was largely developed by the mediæval church in the 14th and 15th centurics. See Thamin, and 15th centurics. Un Problème Moral dans l'Antiquité, 1884; Bradley, Ethical Studies, 1876; Sldgwick, History of Ethics, 1892; Rashdall, Theory of Good and Evil, 1907.

Casus Belli (Lat., 'causes of war'), the grounds which, hy international law, are sufficient for declaring war. The causes for war were strictly defined, so that war might he used as the last extremity in conflicts between nations. See articles on INTER-NATIONAL LAW: HAGUE PEACE CON-FERENCE.

Cat, in general, any member of the mammalian family Felidæ, including the lion, tiger, panther, leopard, lynx, jaguar, etc., hut the name is more usually limited to the smaller species. Cs. are typical æluroid carnivores,

head, looseness of skin, swiftness of movement, grace, and muscularity. They are mostly splendid climbers and jumpers. They have thirty teeth, rough tongues, and long whiskers or feelers (vibrissæ), to assist the eyesight at night. The pupils of their eyes expand and contract according to the light about them. The original ahode of the domestic C. (felis domestic C.) lica) is not certainly known, hut it is probably descended from the felis caffra of ancient Egypt, which was

very small, scale - like sheaths in no true wild species exactly resembles place of leaves. The flowers are in them. They are hardly mentioned in male and female catkins, the male ancient writers of Greece, Rome, or flower consisting of a single stamen Judgea, and it is known that in the earlier mediæval period of Europe Cs. were rather rare and costly. have been long known in China (from 500 A.D.), whence comes a fine variety with soft, heautiful fur and pendulous tufted cars. The Manx, with merely a rudimentary tail, is supposed to have come from Japan, hut is also called the Cornish C. In the widest sense the C. section (aluroidea) of carmivores includes, hesides felida, civets (virerridæ), aardwolves (proteleidæ), and hyænas (hyænidæ). Of domestie Cs. the most 'faneied' hreed is the Persian (long-haired). The most valued are of a very uniform pale silver or chincilla colour, without marking or shading, and with green eyes. Blue Persians should have deep orange or amber eyes. Other varieties hecoming popular are pure whites with blue eyes, deep coal-blacks with dark-yellow eyes, eream, fawn, and dark yellow eyes, cream, lawn, and orange Cs. They may also be brown-tabby, silver tabby, tortoise-shell, or smoke colour. Usually there is little difference in appearance hetween males and females. Pure sandy Cs. are nearly always males. All except the lion are monogamous. They are difficult to train and inclined by nature to be treacherous. Anger is shown by lashing of the tail, pleasned by a deep, rumbling purr in the throat. Russia, Iceland, India, Madagascar, and Ahyssinia, all have fine breeds of domestic C. Notable varied ties are the Angora (long-halred) Maltese and Chartreuse (bluish-slate eolour), Siamese (pale cream, with feet, lower legs, muzzle, and ears all black), and the Paraguay domestic C of America. As a race Cs. are not gregarious or co-operative, but prefer to live or hunt alone (see Kipling's Just So Stories, The Cal that Walked by Himself), or in small family parties. The small species (especially the felis domestica) have young very quently, often as many as four or five at a birth. For ahout ten days after birth a kitten's eyes remain unopened. The eyes are always blue at first. changing gradually later on to green or yellow in most varieties. Cs. soon grow attached to particular spots or corners of a house. They are good mousers if not spoilt by too much petting. Most kinds are not very affec-tionate. In Persians the kitten's playfulness gives place to extreme dignity. Markings are an important point in worshipped at a very early period as judging short-haired varieties at an object of veneration, and not from shows. The earliest C. show in Britain the fierce wild felis catus of Europe. was at the Crystal Palace, 1871, the Cs. are more prone than dogs to re- first in Section taking place soon vert to a wild or semi-wild state, but after in the Royal Gymnasium Hall,

Edinburgh. The National Cat Club | catacumbas. In time the term became Northern Counties' Cat Clnb (headquarters, Manchester), with two annual exhibitions; and the Midland Counties' Cat Club (headquarters. Wolverhampton) exhibiting annually See St. George at Birmingham. Mivart, Cats. 1880; Elliott, Mono-graph of the Felido. 1878-93; Wilder and Gage. Anatomical Technology as applied to the Domestic Cat, 1882; Hoey's translation of Champfleury's Cats, Past and Present. 1885: Stables, Cats, Past and Present. 1885. Stables, Cats, 1897: Jennings, Domestic and Fancy Cats, 1893; Winslow, Concerning Cats, 1900; Hindekopea, The Cat, 1895; Repplier, The Fireside Sphinx. 1901; Landrin, Le Chat, 1893: Simpson, The Book of the Cat, 1893: For their diseases and care, see Cherville, Les Chiens et les Chats, 1888; Hobday, Canine and Feline Surgery, 1900: Hill, Diseases of the Cat, 1901; Friedberger and Fröhner, Veterinary Pathology, 1905.
Gatabrosa, an inconspicuous genus

Catabrosa, an inconspicuous genus of Graminea which grows in temperof Graminea which grows in composite ate countries. There is only one British species, *C. aquaticus*, found in ponds, ditches, and wet sands.
Catacaos, a tn. of Peru. S. America, in the prov. of Pinra, and 224 m. S.W.

of Guayaquil. Pop. 3500. Catachysmal Action, a theory of world history in vogue among geologists in the early part of the nine-teenth century and thereabouts, to account for the revelations which had heen made with regard to fossil remains. It attempted to explain the great differences in the fossiliferous remains in consecutive beds by assuming violent catastrophes which swept over the earth, killing the in-habitants and altering its character. The theory is now ahandoned, and the uniformitarian theory brought forward by Lyell, in which the course of events has been similar to those of

modern times, takes its place. Catacomhs (Gk. κατά, down,

was instituted under Weir's presi- applied to all burial-places in general, dency, 1837. Its aunual exhibition is and so, in the 9th century, to the usually held in October. The Scottish crapta or comilerium of the Christian Cat Clnb, formed 1894, holds an vaults now known in England as the annual sbow in Edinburgh or Glas-calacombs. There are C. in many gow. Other clubs are the C. Club of places, but the most remarkable are 1898, exhibiting annually at St. those of Rome. These are the C. of Stephen's Hall, Westminster; the the Christians and the earliest belong to the 2nd century, though hy far the greatest number belong to the 3rd and 4tb. After the 4th century in-humation in C. became more and more rare, burial in churches taking its place. But the great respect of the Christians for the dead caused the C. to be still held in extreme reverence; people continued to visit them in remembrance of their dead, and to do homage at the tombs of the martyrs. There remain curious notices to visitors, itineraries of pilgrimages, etc., belonging to this time. The faithful took with them precious perfumes. which they poured through the cracks at the top of the martyr's tomb, and of which they carefully collected again every tiny drop as it passed through the cracks at the bottom, after having tonehed the body of the saint. With the invasion of Alaric in A.D. 410, this cult ceased, the C. sharing in the general devastation. Indeed, at this time many of the holy relics were removed and deposited in the various churches for greater safety. There was, therefore, no longer any reason to visit the C.; all trace of them was lost and they were forgotten. Towards the end of the 16th century the reading of ancient writings brought about by the Renaissance, turned people's attention again towards the Cs., and in 1578 they were accidentally re-discovered by Padre Bosio. This Columbus of the subterranean world devoted thirty years of his life to exploring them, working out their plan, and restoring and studying their monn-ments. He wrote an account of his work in Roma Sotteraner. Ever since the C. have been the object of curiosity to millions, and the work has been continued by Aringhi and Boldetti in the 17th century, Seroux d'Agineonrt about 1825, and the devoted workers of modern times, Padre Catacomhs (Gk. kará, down, and kriµβη, a hollow), excavations form-farker, and others. Valuable illustrations subterranean galleries for the Bosheffe. The C. consists of an intereries of long and narrow to 4 ft. wide and 4 to 12 ft.

ssing each other in all forming multitudes of and constituting an in-labyrinth. In these galn in the volcanic rock, the

terium ad catacumbas (the burnat-place | ueau and buried in niches or locali, in the hollow), often shortened to tier above tier, from a short space

ahove the ground to the arched ceil- | ing, in five, six, or seven rows. There is no masonry, the ground supports itself. Many of the galleries are in two or three stages, communicating with each other by stairs. The galleries are interspersed here and there hy spaces much larger than the ordinary galleries; these are the chambers or cubicula. M. Boissier helieves that the tomh of Joseph of Arimathea, with its horizontal niche surmounted by an arcosolium, served the early Christians as a model for these tomhs. At various distances— sometimes 300 paces—are vertical shafts for light and air. The loculi were closed by slahs of marble or huge tiles, and cemented with great exactness. On them was painted or incised a name and a date, with sometimes one or more of the Christian symbols. a dove, an olive-hranch, or the sacred monogram. The cubicula were decorated with simple fresco-paintings, a curious mixture of pagan and Christian traditions forming the subjects. The chambers were family huriai-places, or contained the tombs of martyrs. The C. are entered from churches above them, and some-times from simple openings in the ground. The old helief that the C. were secret places of worship of the carly Christians is true only to a limited extent. There was no need for secrecy except during the fiercest of the persecutions, when Christian worship was penal. There is every evidence, indeed, that at those times they were used for congregational worship. As places of refuge for any number of people or for any length of time, the C. must always have been impossible, though a hunted refugee may occasionally have found safety It appears to be established that the C. were entirely the work of the early Christians and not disused sand quarries, as was once helieved. The strata quarried for building pur-The strata quarried for bunding purposes were quite unsuitable for the construction of C., which required strata of the hard volcanic rock. Among the more famous of the C. ontside Rome are those of Naples, Syracuse, Palermo, Tuscany, Etruria, Malta, and Alexandria. The C. of Paris are improperly so called—they are mere charnel houses.

Catafalque (Old Fr. cadefant), a temporary draped structure, representing a conotaph, used for the lying ln state and for the funerals of royalty

and notable persons.

Catalan, a group of the Romance languages, spoken to-day by over 3,000,000 people in the provinces of

ment of Pyrénées Orientales; in the Balearic islands; in the district of Alghero, Sardinia; and in parts of the Argentine Republic. C. dates from the 13th century, and closely re-sembles Provencal. During the 14th century it came to he regarded as a literary language, and still attains to that dignity, the revival of jocks florals at Barcelona in 1859 having aroused much popular enthusiasm. The greatest C. poet of the 15th century was Auzias March, who wrote heautiful Cants d'anior and Cants de mort. Of modern poets, Balaguer and Perdaguer are chief. Among the prose writers are Ramon Lull (Ray-mond Lully), Muntaner, and Desclot. Consult Morel-Fatio, in Grundriss der romanischen Philologie, 1888; and Mila y Fontanals Estudios de lengua catalana, 1875.

Catalani, Angelica (1799-1849), a famous It. singer who was the daughter of a tradesman, and was educated at the convent of Santa Lucien at Gubhio. Her glorious voice soon attracted attention, and she made a tour of Europe, receiving enormous fees, which were soon squandcred, through the extravangance of her husband. She remained the prima donna of Engiand for seven years, and won par-ticular admiration for her rendering of God Save the King and for Rode's Air with variations. But her chief triumph was operatic singing. She came to financial grief over the Paris opera house owing to her hushand's carelessness. She gave up public life in 1828. She was most liberal and generous in her subscriptions to

charities.

Catalaunian Fields or Plain, scene of the hattle in which Attila, King of the Huns, was defeated by the forces under the Roman general Aëtius in A.D. 451. The plain is generally thought to have been situated round Châlons-sur-Marne, in the old province of Champagne, France, but some anthorities place it round Metz-

Catalectic Verses are such as are lacking a syllable in the last foot-Purtenham called them 'maimed' verses. See ACATALECTIC.

Catalepsy (from the Gk. κατάληψις, seizure, or a taking possession of), a term applied to a nervous affection, in which the patient hecomes insensible, and there is a sudden suspension of all voluntary motion, the body hecoming rigid and fixed, and so remaining until the end of the attack. In some cases there is complete insensibility, so that the person appears to be dead. In other cases the patient appears to be lahouring under great mental excitement, and gives utterance to vehement ejaculations, or will Gerona, Barcelona, Lérida, Tarragona, mental excitement, and gives utter-Alicante, Valencia, and Castellón de ance to vehement ejaculations, or will la Plana, Spain; in the French depart-even hreak out into song. The durathe patient recovers after a few minntes, sometimes after several hours, but in more serious cases the attack will run into weeks or months. In this case forcible feeding has to be administered, otherwise the patient would starve. C. is a complaint to which very sensitive people, women more especially, are prone, and the attack is usually occasioned by some great stress of emotion, whether de-pression of spirits, mental excitement, or religious emotion. In the latter case it assumes the form of a trance case it assumes the form of a trance or eestasy. Swedenborg's trances were undoubtedly a kind of C. This complaint is also associated with hysteria, and does not necessarily mean mental derangement structure. rally, although it does happen that C. is sometimes one of the symptoms of madness. It belongs to the class of those nervous disorders in which the unose nervous disorders in which the various organs refuse to perform their functions owing to the abnormal physical and psychic state of the patient. There is a good deal of imposture practised in this particular affection; at the same time epidemic C. has been known to occur in which many people are affected at the same time. Moral means form a large part of the treatment as in the case of hysteria.

Catalogue, in astronomy, the name given to a list of stars, to which is added the means of determining their positions, whether latitudes and longitudes, or right ascensions and de-clinations. Such a C. not only forms a register of the stars in question, but also gives the means of computing the effects of precession, aberration, and nutation. The position of the star in the heavens at any given time can thus he computated. Another kind of C., such as a C. of comets, is con-cerned with purely physical investi-gations, such as double stars and

nehulæ.

Catalogues and Cataloguing (Gk. κατάλογος, register, from κατάλογος, to enrol, piek out), a list or enumeration, generally in alphabetical order. of persons or things (sale C., picture C.), especially of the contents of a library or museum. A catalogue raisonné is such a list, classified A catalogue

tion of the attack varies; sometimes | C. are essential, one by authors, one C. are essential, one by authors, one by subjects. Some libraries have various other C. and lists hesides. The title of every hook in a library has three distinct parts: (1) author; (2) title proper; (3) imprint and collation, with various bibliographic details. Titles are usually printed or typed nowadays instead of being written by hand, and the book form is largely being replaced by card C., as these are more convenient when new volumes are added to the library. The separate cards generally stand on edge in drawers or trays. The American Library Association Catalogue is n very helpful book, heing a elassified and indexed list of the 5000 vols, most valuble for the average townlibrary. First published in 1893, new editions have followed with short explanatory notes added (1904). The first to make definite, seientific rules for compiling book-C, was Panizzi in 1839. In that year appeared his 'Ninety-one Rules' to be observed in Miney-one times to be observed in making the library C. for the British Museum. Every hook was to be catalogued solely from information contained in itself. These rules have since been modified to meet the important principle that under any author's name all the editions of his works ought to be named in a single list. The Revised British Museum Rules were reprinted, 1900. Alterna-tive systems had by then been proposed by Cutter (Rules for a Dictionary Catalogue, 1891) in 1876, hy the Library. Association of the United Kingdom, and by the American Library Association. The dictionary' system (authors, subjects, and titles all arranged in a single alphabet) is chiefly useful for small libraries. The three most important English eodes of C. rules are those of the British Nuseum, Bodleian Library, Library Association of the United Kingdom (see Library School Rules, Boston, 1894). In 1876 Dewey drew up his scheme for decimal classification of books. Every subject was divided into ten sections as far as possible, and these again into decimal subdivisions. according to which the books were to be arranged on the shelves. presented a more or less logical sequence of subjects, with an index raisonné is such a list, classified securence of subjects, with an index softer basis, with short explanations of authors. In the subject-headings and notes. Such explanatory notes and précis are becoming more and more in demand. The making of Cs. and bibliographies, both dealing with entire books as units, is a most important hranch of library work. The value of a literary collection may largely depend on good C. to make (1) Classed; (2) Alphabetico-classed; (3) Dictionary. See London Library it of practical assistance. To meet ordinary, reasonable demands two School Rules, 1899, and Decimal height the branches become long and Classification, 1885; Quinn, Manual naked and destroy the appearance of Library Cataloguing, 1899; Nelson's the tree. C. bignomicals grows as an Standard Books, 1910.

a prov. of Spain and also a principality of the crown of Aragon; now divided into the four provinces of Taragona, Lerida, and Gerona. It occupies an area of 12,414 sq. m. in the N.E. corner of the Iberian Peninsula. The name may be derived from Goth-Alania, a name perhaps given to the region when it was occupied by the Goths and Alans, or from Gothaland, or from Cotalanos, the supposed name of Ptolemy's Catalanni; or from Olger Catalo, a here who vanquished the Saracens about 756. The surface of the country, which is much broken up by spurs of the Pyrenecs, slopes gently down to the coast, and is drained by the rivers Ter. Llobregat, Noguerra, Segre, and Ebro, none of which are navigable. The climate is generally healthy, temperate, and favourable to vegetation. The orange, fig, vine, pomegranate, myrtle, thorn-apple, pomegranate, myrtle, thorn-apple, esparto and heaths, maize, millet,

of the first Roman provinces in Spain, and the country is full of Roman remains. The Romans were followed by the Goths and Alans, the Arabs. Charlemagne and his troops, then by Louis the Pious of Aquitaine, who placed the district under independent Frankish lords, after driving out the passed over finely divided nickel, the Since then the coun' been alternately independen

rye, flax, liquorice, nuts, almonds, and other fruits grow easily. Goats' and swine are reared, but there are no slicep, and hardly any cattle. C.,

which was probably peopled originally by Iberian races, has been much in-

vaded by foreign settlers. It was one

mand their independence. This political movement has been stimulated by what may be called a renaissance of the local spirit in the 19th century, provoked by a revival of the study of the Catalan language and literature. The language bas great affinity with the Provencal, and is a neo-Latin dialect. The Catalans are revolutionary and warlike, frugal, industrious, enterprising, and energetic, differing in dialect, costume, etc., from the other inhabitants of Spain.

Catalpa, a genus of Bignoniacere, occurs in Asia and more abundantly In N. America. C. syringæfolia is a southern states of nativo of the America, where it gains a height of 40 to 50 ft. along the banks of rivers. shaped,

ornamental tree in Britain and yields durable timber; C. longissima contains much tannin in its bark. Catalonia (Sp. Cataluna), formerly Cataluña, see CATALONIA. Catalysis, a term introduced by

Berzelius to express the acceleration of the rate of a chemical reaction produced by some substance which is itself not permanently changed by the reaction. The terms 'positive C.' and 'negative C.' are sometimes used to express acceleration and retardation of the rate of reaction. some instances it is certain that the catalyser undergoes some change in the course of the reaction, being reconverted to its original form before the end of the process; in other cases no change at all is apparent. An example of the former class is provided by the part played by manganese dioxido when oxygen is obtained by heating a mixture of that substance with potassium chlorate. Some of the chlorate reacts with the manganese dioxide to form potassium permanganate, chlorine, and oxygen; the chlorine then reacts with the permanganate to form potassium chloride, manganese dioxide, and oxygen, these being the ultimate products of the reaction. In the acceleration of the combustion of hydrogen and sulphur dioxide in the presence of finely-divided platinum, the metal does not appear to change at all during the reaction. other metals act as catalysers in eertain reactions, with results which have some commercial value. acetylene mixed with hydrogen be

A process by day the Catalans do not cease to de-dioxide and oxygen is brought about mand their indonedence. This politically by the catalatic property of sulphur about by the catalytic action of platinum is used in sulphuric acid manufacture. No satisfactory theory of C. has yet been clahorated.

cllow liquid

Catamaran (from a Tamll word derived from catta, to tle, and marana, wood), the name given to a vessel or raft used by the Hindus of Madras. It is formed of three logs lashed to gether. The central log is longost, with a currod surface at the fore-end which terminates in a point. It ls from 20 to 25 ft. long, and is managed by two men who squat upon it and work paddles. The special use of the C. is that it can pierce through the sunf on the beach at Madras, and so reach a vessel in the bay when any other kind of boat would founder.

The Catamaran Expedition, yellow name given to an absurd project on a great the part of England for destroying

the French flotilla in Boulogne. Wimereux, and Ambletouse. Lord Melville conceived a plan for placing vessels called Cs., filled with strnes and explosives, close to the enemics ships and of blowing thom up. The foollsh enterprise was a complete failure, and was much ridiculed in England as well as in France.

Catamarca: 1. A north-western prov. nf the Argentine Republic, being bounded on the W. by the Andes and on the E. by the Sierra Aconquija. The country is mountainous, with short streams and many salt lakes. The valleys are fertile and produce red pepper, tobaceo, and all kinds of grain and fruits. Copper is found in great quantity, many minerals are mined, including gold, silver, iron, and lead. Pop. (largely Indlan) e. 105.000. 2. The capital of the above prov., on the Rio del Valle, 250 m. N.W. of Cordoba, with which it is connected by rail. It has a Franciscan monastery, a national college, and a normal school for women. The chief exports are figs, wino, and cotton. Pop. 8000.

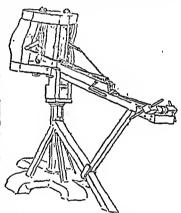
nduanes, an part of the coast of which it is separated by the Maqueda Channel. Area, 710 sq. m. Length, about 38 m. It is a fertile e, rice, abaca, digo, etc. The about 34,000.

of a prov. and for province is an administrative division of the kingdom of Italy. It is everywhere mountainous, and is watered by the Giarctta and its numerous affluents. It forms the beautiful plain of C., the most fertile town is situated Etna, near the

is now blocked up by lava. C. is a most beautiful city, which is aiways being destroyed and is always rising agaln upon its own ruins and upon lava. This accounts for its modern appearance. It was devastated by oruptions and carthquakes in 1669, 1693, 1818, and 1873. Its immediate environs are very desolate, the country being covered with lava and black sand; beyond is the beautiful fertile plain which yields grains, the vine, fruits, and vegetablesin extraordinary profusion and excellence of quality. The town was founded by Greek colonists in 728 B.c., became a Roman cniony—Catana—in the reign of Augustus, was occupied successively by the Goths, Vandals, and Saracons, and is now incorporated in the kingdom in the country of the co

Catanzaro: 1. A prov. of S. Italy, firmerly called Calabria Ulteriore II. It is bounded by the Mediterranean on the W. and the Gulf of Taranto on the E. There is excellent pasturage; vine, nlives, and fruit are cultivated. Area, 2030 sq. m. Pop. 499,000. 2. Capital of the above prov. It is an episcopal city, situated on a mountain, 8 m. from the Gulf of Squillace. There are the ruins of an old castle and a fine eathedral. Many of the principal buildings were destroyed by an earthquake in 1783. There are fine nlivo groves; the chief industry is the manufacture of silk and velvet. Pop. 32,000.

Cataplasm, see Poultice.
Catapult (GK. κατά, down, and πάλλω, to hurl), an ancient military engine for throwing stones, arrows, and darts. Some say that It was invented by the Syrians in 200 B.C., others that Dinnysius, tho tyrant of Syracuse,



CATAPULT USED BY THE ROMANS

invented it in 399 B.C. It was used by the Grecks in the time of Philip, King of Maccdonia, by the Carthaginians, and by the Romans. It disappeared at the beginning of the middle ages. In its simplest form the C. consisted of a strong framework of wood on which was stretched a sheaf of cords. To this was attached by one of its extremities a lever having at its other was filled with stones, lead, etc.; the lever was turned so as to twist the cords. It was then let loose and the missiles were discharged. Another form of the C. had a bow of wood or steel, which was bent by means of a windlass, the cord being finally re-

also given to a toy consisting of a whom he became Prime Minister

rnbber.

Cataract, a disease of the eye caused by the clouding of the liquid contents of the crystalline lens. This is situated with its anterior surface 3.6 mm. behind the anterior surface of the cornea and the principal image forming part of the visual apparatus, the of Samar, Philippines, at the mouth alteration of the curvature of its of the Catarman R. The town was anterior surface giving accommoda, partly destroyed by a volcanic erup-The cloudiness which is caused by lack of nutrition occurs at all ages, but more often in the cases of old people and young children. It is sometimes present at hirth, exists in connection with some general diseases such as diabetes, in sealle decay, or when the eye is subject to local injury caused by a blow. It is painless and but the patient is able to distinguish light from darkness. The lens itself is not lomogeneous, but consists of numerous concentric layers increasing in density from the outer to the central portion, the whole being transparent capsule. The formation of the C. is gradual, either starting from the opacity. In its early stages it is seen by the ophthalmoscope invented by Helmholtz for examining the interior of the eye. C. may be either hard or soft; the latter, however, is the general condition for cases occurring Treatment must in young people. consist of an operation. As a palliative, however, a mydriatic such as atropine increases the opening of the pupil and so allows more light to reach the retina; but it is no cure, and has no power to arrest the progress of the malady. The operation can be per-formed by means of a puncture of the lens by a fine needle passed through the cornea at the margin and stirring humour of the eye and dissolves. This grape and the wine expressed from form of operation is generally performed on soft C. When the lens is grape of Vilis Labrusca, the forformed it is extracted entire. With a dark red and very sweet, and the narrow knife an incision is made in wine is light, with a rich resulting the apper part of the cornea at its the upper part of the cornea at its junction with the sclerotic. the pieces are taken out, the cut edges put together, and the eye bandaged.

He took part in the conspiracy against \$000.

leased by a spring. The name C. is Conza (1866), upon the abdication of forked twig and a piece of india- under Prince Charles of Hohenzollern: he held this position again in 1871-6, 1889. and 1891-5. During his last premiership a scheme of peasant-proprietorship of small holdings of state land was brought in, and a state agricultural bank was established.

Catarmán, a pueblo on the N. coast tion in 1871. Pop. (1903) 9994.

Catarrh, inflammation of the mncous membrane, accompanied by a more than usual discharge of mucous fluid from off it. In an ordinary cold the membrane of the nose and upper part of the throat is inflamed.

Catarrhina, the name sometimes given to a group of monkeys which unaccompanied by inflammation one comprises the families Cercopithe-eye is often affected alone, and blind-cide and Similde, or anthropoid ness is caused for all general purposes, apes. They differ from the Playrrhina which comprises the remaining two families, the Hapalidæ and Cebidæ, chiefly in having their nostrils close together and looking downward as opposed to those looking outward and separated by a broad cartilaginous septum. The C., moreover, have often ischial callosities or c. is gradual, either starting from the over, have often recinal canosines of centre or from the edges, and when it patches of brightly-coloured skin, has covered the whole of the lens, the cheek pouches, thirty-two teeth, and latter is filled with a homogeneous their talls when present are never pearly white or amber coloured prehensile. The other species have opacity. In its early stages it is seen thirty-six teeth, no ischial callosities or cheek pouches, and their tails are frequently prehensile. The former are denizens of the Old, the latter of the New World.

Catarroja, a tn. of Spain, in the prov. of Valencia, and 6 m. S. of the city of that name. Fishing and the cultivation of rice are the chief industries. Pop. 7000.

Catauxi, a warlike, cannibal tribe. living in Western Brazil. They go naked, and wear hangles and anklets. The men are very handsome, with fair complexions, and are extremely strong. They mould and ornament pottery, and cultivate manioc ex-

sparkling. Its name is taken from the Catawba P. of the Carolinas on which

put together, and the eye bandaged. It is said to have been first cultivated. In either case strong convex glasses must be worn after the operation to replace the missing lens.

Catargi, Lascar (1823-99), a Roumanian politician, born in Moldavia. being cocoa-nut oil and hemp. Pop. Retool vart in the corpsing against 1826-88.

very different species of birds which hrai. There are wool, cotton, sugar, resemble one another only in that they emit a curious mewing sound. One of these, Eluredus viridis, is an Australian hird closely allied to the bower-hirds; the family to which it helongs is the Paradiseidæ. The other is an American member of the family Turdidæ, is related to the mocking-bird and is called technically Galeoscopies carolinensis. The colouring of the two is also different, the former heing a hright green, the latter a slate-grey.

Catch, a round in which each singer in turn catches np, as it were, the words from his predecessor and which is so contrived that this catching at each other's words distorts the sense,

giving it a humorous or absurd turn. Catchfly, the name applied to many species of the caryophyllaceous genera Lychnis and Silene which are very common in Northern lands. They obtain their name from their ability to catch insects by means of a glutinous substance which is exuded from the calvx and glanular hairs on the stalks. In hoth genera the calva is gamosepalous and the stamens are ten in number, but in the genus
Silene there are only three styles,
while Lychnis has five styles and five carpels. S. nutans, the Nottingham C., is a night-flowering species, common in meadows, and is pollinated by moths; L. viscosa, clammy C., and L. riscaria, German C., are European species with protandrous flowers which are pollinated by bees, hntterflies, and moths; S. marilima, seaside C., has fleshy leaves; S. rotundifolia, round-leaved C., and S. antirrhina, snapdragon C., are American species. Dionaa muscipula, the Venus' fly-trap, which helongs to the Droseraceæ, is sometimes called the Carolina C.

Catching Bargain (also Snatching Bargain), means a purchase mado from an expectant heir of his re-versionary interest in real or personal property for an inadequate considera-tion. The law was formerly very stringent in setting aside such hargains, hut mere undervalue will not now operate to nullify 'a hargain if made in good faith and without

fraud or unfairness.

Catchpoll (catch and poll, the head), a term of reproach used to denote the assistant of a bailiff, whose duty it was to make arrests. It was also used to mean a tax-gatherer. The term, which is now obsolete, was derived by analogy from 'catch-pole,' a six-foot pole fitted with springs and so constructed as to enable fugitives to he caught hy the neck.

Cateau-Cambresis, a tn. in the dept. priests were instructed to make the

Cat-bird, the popular name of two joi Nord, France, 14 m. S.E. of Camand soap factories, breweries, and potteries; woollen goods are manufactured, and cattle-dealing is carried on. In the 16th century it was for a time held by the English who, however, had to surrender to Dunois. The treaty of C. was signed here in 1558, after the battle of Saint Quentin.

Catechism

Catechism (Low Lat. catechismus. from catechizo, to catechise: from Gk. κατηχέω, to catechise, instruct; all from a root word meaning echo):

1. Religious instruction given hy means of questions and answers. 2. A book of elementary instruction containing, by means of questions and answers, an exposition of religious dogma. 3. Elementary instruction. oral or written, in any hranch of knowledge. In the early days of Christianity the C. was the instruc-tion given to pagans, Jews, and others, in preparation for baptism. and for admittance to the number of the faithful. He who received the instruction was called the catechumen. and he who gave it the catechist. The catechumens occupied a special place in the hasilica, either under the portico or in the anterior gallery. They were not allowed to remain for the sacrament, this being a mystery into which they were initiated only after baptism. During the first centuries the preparation was long, tak-ing at first three years, then two; later everything was changed, and infant haptism was instituted, the instruction being given afterwards and. as it were, a repetition of the baptism taking place under the name of confirmation. There remains no formula of catechism used by the church of antiquity; the catechism was then a real and prolonged education in morals and dogma. The earliest Christian Ga. are those of Kero, a monk of St. Gall in the Sth century, and of Otfried a monk of Weissenburg in the 9th. It was from the time of the Reformation that the little hooks called Cs. spread and multiplied. This was due to a renaissance of religious proselytism springing from the emulation between Catholics and Protestants. The Catholic Church found it necessary to define and formulate its faith, and for this purpose it issued in 1566 the Summa Doctrinarum of Peter Canisius, in opposition to the Protestant Cs. of Luther. A little later came that of the Council of Trent, laying down a uniform planof instruction, and giving a model to the curés, who were enjoined to teach it at least on Sundays and feast days. This was a period of great enthusiasm, provoked by the spread of Protestantism, for the C.

other Cs., among the Catholics those of Bellarmine in 1603, of Bossuet in of Benariffine in 1803, of Besset in 1887, and the Schema de Parco in 1870; among the Protestants, the Genera Catechism of Calvin in 1536, the Catechism of Heidelberg in 1563, the Zurich Catechism, and in 1549 the C. which, with additions hy Bishop Overall in James I.'s reign, forms the day. The Scottish Presbyterians have interest. Craig's C. (1592) and that of the Westminster Assembly of Divines (1648) now in use. The Jewish Cs. include The Thirteen Articles of Belief (12th century) of Marmonides, Rahbi Levi's Book of Education, and those of Lescr

day. Catechu, or Cutch (cate, tree, chu, juice; Malay kāchu), an extract obtained from several plants, especially from the wood of Acacia calechu merce is a similar extract produced from the leaves of Uncaria gambir and Uncaria acida, plants of the East Indian Archipelago. It is sold in dry cubes about one inch square, and is used medicinally as an astringent, and alsolargely in tanning and dyeing, and also account of the table of table of the table of tabl yielding a variety of drabs, browns, and olives. It is often used for colouring stout canvas. Its main ingredients are catechuic acid or catechin, and a peculiar variety of tannic acid. 'Areca C.' is obtained from the fruits of the

areca or betel palm. Categorical, term in logie. Aristotle used it in its merely literal signification of that which is affirmative as opposed to the negative. later logic it denoted a proposition which is asserted absolutely in con-tradistinction to one that is hypothetical or involves a condition. still has this connotation, but the modern logic to be one c* or content, and not onc dependent on the gran of the words used. See Whately's Logic and Bosanquet's Logic.

of an mora raws. He here that the principal works being 'Knight Kneelwill or reason was guided in any ing before the Madonna' (Notionol given direction by an a priori cogni-Gallery); 'Madonna hetween St. tion of what we ought and what we Francis and St. Jerome' (Venice).

teaching as attractive as possible to lought not to do in a particular set of the children, by the use of gentle and (circumstances; and that we were free moternal languago, the offering of to obey or disobey, morality being little rewards, and so on. Later came neither empirical nor a question of self-interest. This unconditional rule of duty, which is valid hecause innate, Kant calls the C. I., and contrasts it with a command the validity of which is dependent on some presupposed end, e.g. self-interest. Schopenhauer attacked the theorem of the C. I. by saying that Kant confused reason with virtue and that in reality English Protestant C. of the present he made all actions depend upon self-

Category (Lat. categoria, Gk. катпγορία, accusation, assertion), a term in logic and philosophy applied to certain general classes under which ohjects of knowledge can be arranged. The name was first used by Aristotle for the classification of all kinds of and Piscotto in use at the present predicates. His Cs. are ten in number: substance, quantity, quality, relation, place, time, situation, possession, action, and suffering. This arrangeobtained from several product of the wood of Acacia calecnu ally from the wood of Acacia calecnu and Acacia suma, natives of India. This kind is known as 'black C.,' and and reconstructions have been made is used in tanning and dyeing. The hest quality, called 'Peru C.,' is obtained in blocks covered by large term to the conceptions which the leaves. The 'pale C. of pharmacy,' or indicate the matter of knowledgo received from the senses into an intelligible notion. His Cs. knowledgo received from the senses into an intelligible notion. His Cs. are: (1) Quantity, including unity, plurality, totality; (2) quality, including reality, negation, limitation; (3) reality, including substance, causality, reciprocity; (4) modality, including possibility, existence, necessity. These Cs. only deal with the a priori conceptions of the understanding and later philosophers have standing, and later philosophers have extended the use of the term to cover any necessary conception under which reality may he thought, and hove given them an objective instead of only a subjective significance. Hegel was the completer of this work, begun hy Fichte, and he divides all Cs. Into tbree great classes-helng, essence, and concrete thought-each subject J. S. Mills to much subdivision. classifies all describable things as: (1) feelings or states of consciousness; (2) the minds which experience these distinction between C. and hypo-feelings; (3) the externol objects thetical judgments is considered in supposed to excite sensotions; (4) essions and co-existences. ond unlikenesses between r states of consciousness.

Catena (properly Vincenzo Biagio) (c. 1470-1531), on Itallan a disciple of Giovanni Bellini. ked chiefly on portraits ond ond historical subjects, his

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' Count Raymond There are many examples (Berlin). of his work at Venice-in the Doge's Palace and in the churches and the

academy.

Catenary (Lat. catena, a chain), the name given to the curve in which a cord or chain of uniform material and sectional area hangs when loaded with its own weight alone. The cartesian equation of the curve is y = aThe uniformly distributed ā rope curve is called the common C. to distinguish it from other curves which are formed when the distribution is otherwise. Thus when the loading of any portion is proportional to the horizontal projection of that portion the curve formed is the para-bola, as in the case of the chains of a suspension bridge. The properties of the common C. are interesting and various. The chief are: (1) If a horizontal line be drawn at a distance below the lowest point of the string having a weight equivalent to the tension at the lowest point, then the tension at any point in the string or chain is equal to the weight of a portion equal to the distance of the point above the horizontal line. The atter line is called the directrix of the C. (2) The radius of curvature at any point is equal to the portion of the normal intercepted between the curve and the directrix. (3) Of all curves of given length, drawn between two fixed points in a horizontal line, the common C. is that which has its centre of gravity furthest from the line joining the points. (4) The horizontal component of the tension at all points in the string is constant. (5) The area bounded by the vertical line through the vertex and the vertical line through the other extremity of any arc is equal to the length of arc multi-plied by the beight of the other ex-tremity above the directrix. If the

Catenipora, the name given by Lamarck to a genus of fossil coral called Halysites by Fischer. These coelenterates are known as chaincorals, and occur only in the Or-

string or chain vary in diameter so that the area of section at any point is proportional to the tension at that

dovician and Silurian.

strength.

Cateran (Gaelic and Irish ceathar-nach, a soldier), originally an Irish or Highland irregular soldier, a kern: now usually meaning a Highland frecbooter or reaver.

Fugger 'I trict Lunatic Asylum is here, and the Guards' Barracks. Pop. 10,000.

Caterpillar, the name given to the larvæ of the Lepidoptera, or butterflies and moths. It is a worm-like animal which consists of a head and thirteon segments, the first threc being thoracic and the last ten On the first three segabdominal. ments there are six truo legs, oach of which is jointed; and the abdominal segments often bear a varying number of tubular pro-legs, each ending in a circlet of small hooks, the last two being claspers. These larvæ aro curiously dissimilar to the perfect insect in that they possess large mandibles, while their maxilize and labial palps are small. The spinneret, or the organ by which the silk is exuded, opens on the middle of the labium, and sometimes projects as a spine. The sense of sight is very rudimontary, as are the other senses. for this larval stage is essentially a fceding period in the life-history of the insect, and every effort is made In the direction of stering up food ready for the resting-stage. As might be expected in this voracious creature the stemach is extremely large, and it is also very simple in structure. The skin often contains oderiferous and other glands; It is very thin, and a slight wound will cause it to break and exude so much blood that the larva soon dles. The sexual organs are rudimentary and cannot be seen externally, but that they do exist has been fully proved, and in a few cases the sexes are said to differ in colour. The C. is frequently a brightly-coloured creature, more especially when its unpleasing taste gives it no cause to fear birds or other enemies, but at other times it is colourless, or takes on the hue of the plant on which it lives. It may be smooth or covered with hairs. Mimicry prevails very greatly among the various species, and the appearance of some which resemble twigs is most remarkable in its perfection. A serious point, the curve in which the string enemy to the larvæ aro the ichneu-mon-flies, which have the unfeeling hangs is called the C. of uniform habit of depositing their eggs in the soft bodies of the feeding lepidoptera; as the eggs hatch the resulting larvæ use up the reserve material in the bodies of their host, so that when the resting stage comes the creature has no stored-up food and consequently dies.

Catesby, Mark (c. 1679-1749), an English naturalist, born in London. From 1710-19 he travelled in N. America and gathered together a remarkable collection of plants. From Caterham, an urban dist. in the remarkable collection of plants. From Wimbledon division of Surrey, Eng-1722-26 he was again in Carolina. On land, 7 m. S.E. of Croydon, and 20 m. bis return he published Natural S. of London. The Metropolitan Dis-History of Carolina, Florida, and the fishes, reptiles, and insects of the islands of Providence (1731-43).

Catesby, Robert (1573-1605), an Englishman, born at Lapworth, Warwickshire, of good fortune and family. In 1604 he joined a group of conspirators, including Thomas Winter and Guy Fawkes, and was involved in the Gunpowder Plot (Nov. 5, 1605). On the discovery of the plot he attempted to escape, but was shot at Holbeach in Staffordshire.

Cat-fish, the name given to any member of the family Siluridæ, the species of which are characterised hy having a naked or bony skin without scales, a small maxillary bone and the presence of harbels about the mouth. They inhabit all temperate and tropical regions, and only rarely enter salt water. Over 1000 species are known to exist, and these vary greatly in nature and habit; among them may be mentioned Malanterurus electricus, the C. of the Nile which gives an electric shock, Siluris glanis, the wel of German rivers which weighs hundred three to four pounds, Ictalurus ponderosus, the white channel-cat of the Mississippi, which is one of the largest fresh-water fishes, and the genera Callichthys, Doras, Oxydoras, and Rhinodoras, which travel overland in dry seasons for new ponds.

Catgut, the name given to the cord made from the intestines of the sheep. ox, horse, mule, and ass-never from those of the cat. It is supposed that the proper word was kilgul, kil meaning fiddle, and that it has become confused with the word kit used for cat. C. is made into strings for harps, violins, and other musical instruments, for how-strings, whipcord, for banging weights of clocks, suturing wounds, and for 'belts' for driving latbes. The intestines are thoroughly eleansed, scraped, rendered aseptic, and drawn through a perforated brass

thimble. Cathari, a wide-spread heresy extending among the Gnostics of the middle ages, gave rise to this name, which signifies 'pure,' and comes from the Greek κάθαρσις, 'a cleansing, purification.' The C. assumed different names in different countries. In the East they were called Bogomils or Paulicians: in the West they were called Paterini, because they held

Bahama Islands, Hortus Britanno- were divided into two classes, the Americanus, and a work on the Perfecti, and the Credentes, or fishes, reptiles, and insects of the Believers. The Perfecti were saints on earth to whom the Believers gave unquestioning obedience, and whom they even adored. They believed that Satan was the ruler of this world, which was a kind of Purgatory or Hell, hut they believed in the ulti-mate salvation of all mankind; man might have to return to this world more than once before his reconciliation with Christ was complete. Some even held the doctrine of metempsychosis.

Cathartie, a medicine used to produce evacuation of the bowels. The term is often used to describe a purgative moderate in its action, more forcible than a laxative, but more gentle than a drastic purgative. The action usually is to cause an increased flow of secretion from the lining of the alimentary canal and so aid in the removal of irritating matter:

Cathay, the name by which China was commonly known in Europe during the middle ages, introduced by Marco Polo and derived from Khitei or Khitan, the earliest Mongolian tribe known to have conquered China, who disappeared early in the 12th century. The Russians still call China

'Kitai. Catheart: 1. A par, and tn. in Reufrewshire and Lanarkshire, Scotland, near the White Cart Water, and 3 m. S. of Glasgow, of which it is a suburb. S. Of Giasgow, of Which it is a suburb. Industries, paper-making and dyeing. Pop. of par. 28,200; of tn. 4808. 2. Å dist. and tn. in S. Africa, in the S.E. prov. of Cape Colony, 109 m. N.W. of E. London by rail. Pop. (1910) of dist. 12,000; of town 1800. Catheart, Charles Murray (1783-1859), second Earl Catheart and another distinguished soldier. Son of

another distinguished soldier. Son of Sir William Schaw Cathcart. Joined the Life Guards in 1800. Served as lieutenant-colonel at Salamanca and Took part in battle of Vittoria. Waterloo (1815), and received the C.B. Of a scientific disposition, he diseovered the mineral greenockite. Sent to Canada in 1846 as commander-inchief.

Catheart, Sir George (1794-1854), third son of the first Earl Catheart. likewise a brilliant soldier, and took part in the Furopean campaigns. Was aide-de-camp to the Duke of Wellington, and served at Quatre Bras and Waterloo. Was present with or Pathicians: in the West they were Bras and Waterloo. Was present with called Paterini, because they held his father at the Colgress of Vienna their meetings where the rag-pickers (1814). Appointed commander of used to meet, in the street Pateria. King's Dragoon Guards in 1838 and The heresy first started in the 16th sent to Canada to addit the insurrecand lasted till the middle of the 14th tion. In 1852 was plade governor of century, when it became rooted out the Cape and brought the Kafilr War by the Inquisition. Some curious to a speedy termination. Made K.C.B. tenets are ascribed to the C. They in 1853. Killed at 1 kerman. Wrote Commentaries on the War in Russia | VIII. had his marriage publicly and Germany, 1850.

Made licutenant-colonel of Cold-stream Guards (1781), and comman-der-in-chief in Ireland (1802). Took Was present at Congress of Vienna, and created earl in 1814.

Catherine of France. or Valois.

Cathedral (Lat. cathedra, a seat or throne), the principal courch of a diocese, that in which the archbishop's or bishop's throne is placed. In the primitive churches the throne was placed in the apse, behind the altar, in such a position that the bishop faced the officiating priest; its position is now usually on the south side of the choir. Originally Cs. had a civil as well as a religious function, political assemblies being held in thom under the presidency of the bishop. Until the end of the 12th century they were of no extraordinary dimonsions—many of the abbey churches were much bigger. But at this period, kings and cecleslastics co-operating, magnificent buildings co-operating, magnificent buildings sprang up, and in the 13th century grand ceremonies took place in and about them, when amid the pcaling of bells the bishop and chapter went forth to receive the king at the entrance to the town. The administration of the C. and of the diocese is carried on by the chapter.

Cathelineau, Jacques (1759-93), a linen-merchant of scanty means, who headed the Vendeans in their opnosi-

headed the Vendeans in their opposition to the French Revolution—called by the peasants 'the Saint of Anjou,' on account of his great piety and physical prowess. Seized the castle of Gallais, together with a cannon (nicknamed the Missionary), and offered a stout resistance to the revolutionary insurgents. Very successful at first, seizing Fontenay and Saumar. C. then created general of the forces. Made an attempt in 1793 to capture Nantes, and succeeded; was mortally wounded; bis troops at once routed.

Catherine of Aragon (1485-1536), daughter of Ferdinand, King of Spain, and of Isabella of Castile; wife of Henry VIII. of England. C. had first been married to Prince Artbur, eldest son of Henry VII., but was left a widow after five months. Her fatbor refused to pay the rest of her large refused to pay the rest of her large dowry unless the king would consent to her marriage with Prince Henry. Henry VII. obtained a special dispensation from the pope sanctioning pensation from the pope sanctioning of the union. On his accession Henry Great Britain. C. brought Charles an

ratified. After twenty years there and Germany, 1850.

Catheart, Sir William Schaw, first was no son, and this, together with Earl (1755-1843), a distinguished the king's affection for Anne Boleyn, soldier and diplomatist. Son of made him seek a divorce. After recorded the law, then entered the from the pope, Henry first married army, and took part in the American Anne and then convened an ecclesicampaign, where he was promoted. astical court in London to try the Made Lieutenant colonel of Colds auestion; the court programmed his question; the court pronounced his marriage with C. null. C., who bad been a faithful wife and good mother,

Dowager Princess of Wales.
Catherine of France, or Valois,
daughter of Charles VI. of France
(1401-38), married Henry V. of England, as arranged by the Treaty of
Troyes, 1420. Their son was Henry VI. (1422-61). Henry VII. and the Tudor house were descended from her and her second husband, Owen Tudor. Catherine de' Medici (1519-89)

daughter of Lorenzo de Mediei, and wife of Henri 11. of France. She was an orphan, and married, in her fourteenth year, the second son of Francis I. For many years she lived childless and obscure, her whole policy as dauphiness being to gain and keep the favour of Diano de Policers and the favour of Diano de Poltiers and the Duchesse d'Estampes, the mistresses respectively of her husband and father-in-law. She observed much, however, and gained a keen insight into the intriguing statecraft of the period. During the reigns of her husband and her son, Francis II., her life was little less passive, though she artfully managed to help the schemes of the Huguenots—not out of any sympathy for them, but to play them off against the Guises (uncles of Marie Stuart, wife of Francis II.), whom Stuart, wife of Francis II.), whom she bated and fcared while appearing to support them. Her one aim was to control the power of the Guises and make her family supreme. On becoming rogent at the accession of ber second son, Charles IX., she entered upon a course of preposterous cruelty and corruption. Craftily sho played with England and Spain, and the Huguenots, using them unserupu-lously to serve hor own purposes, stirring up the discord and hatred which culminated in the massacre of Saint Bartholomew's Day. She diod discouraged and in despair a short time before the assassination of her youngest son, Henri 11I., leaving the eountry in a state of anarchy and eonfusion. C. had all the Medici love for art, and she found time to take an active part in plunning the Tuilories, in enriching the Biblio-thègne Nationale, etc.

enormous dowry, together with Bom-1 Paul, who bore a strong resemblance ceedingly unpopular in England. It was also very unhappy, for Charles treated his wife with contempt and indifference, and heaped insulb upon her. He, however, took her part twice against his infamous court. After a miserable life as 'a stranger in a land. she returned strange

Portugal in 1693. Catherine Parr, sixth and last wife Henry VIII., daughter of Sir She was a learned Thomas Parr. woman, well versed in literature and ! theology, and a zealous Protestant, which made her obnoxious to the husband, for she tried to persuade him into completing the work of the Reformation. She was regent during Henry's expedition to France in 1544. After the death of Henry she contracted a marriage—of affection on hor part and of interest on his-with Sir Thomas Seymour, lord-admiral of | England, who neglected and illtreated her. She published two

volumes of devotional writings. Catherine I. (1683-1727), the wife of Peter the Great, was of obscure hirth. Her first husband, a Swedish dragoon, was slain and she herself was taken prisoner at Marienhurg. She became the mistress of Bauer, and then of Mendsehikoff, but the Czar fell in love with her, and in 1723 she was crowned Empress of Russia. On his death in 1725 she continued to reign alone through her favourite Mendsehikoff. Energy, good sense, and a lively interest in science and art characterised her rule. The 'Verk-hovny Tainy Sovyet,' or supreme privy council, was instituted in her reign.

Catherine II. (1729-1796), Empress of Russia

Prince of '

of Stettir shal. In 1745, after having adopted the name of Catherine Alexievna, and renounced her membership of the Lutheran, in order to join the Greek church, she was allowed to marry Peter, the nephew of the reinning Empress Elizabeth, and the prospective heir to the throne. Her husband the add that the prospective heir to the throne. shared all the pettinesses of a small German prince, and was besides dismean type of military which has been aptly

instigation of his wife, and C. came to a woman she was flagrantly and the throne. Though it is a disputed frankly immoral: her lovers, of whom point, it is probable that her son the first was Count Soltikoff and the

enormous down, orgenia man and the fortress of Tangier in to Peter III. was really her son by Africa, but the marriage was ex- her husband. She was a harsh mother to him, and whilst she lived, denied him every vestige of authority. As a ruler, C. showed herself to be pos-sessed of indomitable energy, an iron will, and great ambitions for territorial expansion. But her determina-tion to advance her various paramours to high offices, regardless of their capabilities, played havoc with her army organisation, her generals being often quite incompetent, and detracts from every estimate of her as a statesman rather than a scheming politician. Thus in 1763 she triumphantly placed her former lover and Papal party, and also irritated her favourite, Stanislaus Poniatowski on the Polish throne, and would always insist, despite every evidence to the contrary, that Potemkin, who enjoys the unenviable reputation of being most notable of her many the admirers, was superior to Suvarov in strategie genius. The most conspicuous of her services to her country was her consolidation of the empire and the enlargement of its frontiers. For she insisted on her full share of the spoil after each of the three iniquitons partitions of Poland (the first in 1772), and successfully manceuvred the acquisition of Courland, nor did she come out of the war with Turkey, which ended with the peace of Kninardji in 1774, or the subsequent war with Sweden, which terminated in 1790, without substantial additions to her sphere of influence. As empress, C., who was a disciple of Voltaire, prided herself on being guided by

irresolution and instability which marred much of her work, as also for her passion to begin enterprises which she had not the perseverance to complete: in her own words, she was a splendid 'commenceuse.' During her reign the internal admin-istration of Russia was good probably because, where her ardour slackened. there were officials willing to carry out her plans. Of her foreign policy it may be said that she was always in-fluenced by her desire to hulld up a great and flourishing kingdom—a patriotic desire which won her the loyal admiration of all her people and figured with small-pox, addicted to the respect of many rival Powers. loathsome habits and actuated by a But sometimes her aims were extrafor instance when she the idea of overthrowing

eorporal's mania. For a remacy in India, or of re-Peter reigned as Peter III., but in viving under Russian suzeralnty, the 1762 he was murdered, probably at the Greek empire at Constantinople. As

iast Platon Zubov (with whom sho inatural impression on her hands and lived when she was sixty-seven), suceceded one another without intermittance, and occupied almost a definite post to which a huge salary was attached. Her admiration of Voltaire led her to despise religious seets, but though her irreligion induced her to favour toleration, she refused permission to build dissenting chapels. To her 'entonrage 'sho was both kind and generous, and in her household she insisted on conformance to all the ontward decencies. She had a passion for writing very poor stuff, and loved the flattery which Voltaire and

lavished on h tism was sho

towards the French Revolution, as also in her unwillingness to proceed to the emancipation of the serfs.

Catherine, St., V. M., whose festival falls on Nov. 25. Little known about this saint; always depicted in art with her wheel and erowned. Various legends exist, amongst which may be cited the translation of her body hy angels after hor martyrdom to Mt. Sinai. Her prayer before her death, that the world might be converted. was granted, for when Constantine defeated Numantius, the world becamo Christian,

Catherine de Ricci, St., of noble parentage, born in Floronce in 1522. Entered the convent of Dominicans at Prato, and died in 1589. Benediet XIV. canonised her, 1746.

and her calender date is Fob. 13.
Catherine of Bologna, St., born in
1412. Belonged to a nolie family.
Joined the order of Poor Clares at the age of eleven, and in later years was appointed prioress of the Convent of Poor Clares at Bologna. Had a beatific vision of the Virgin and Infant Son.

Catherine of Genoa, St., born of noble parents in 1447. Canonised by Clement XII. in 1737. Unhappliy separated. consequently

and the sick and poor.
Catherine of Sienna, St., born in 1347. Her father was a dyer by trade. Subject to eestatle visions from her carliest childhood, she belonged to the Order of St. Dominic, and her father confessor, Fr. Raymond of Capua, wrote a detailed account of ovidently subject to cataleptic fits, brought on through her unnatural and terrible mortifications, but she was rewarded for her holy zeal with most glorious visions. On one occasion she declared that she saw Our

feet of the sears and wounds inflicted upon the Saviour on the cross. though an illiterate girl, she excreised great religious and political influence. for sho was instrumental in bringing the pope back to Rome, and sho suc-ecoded in reconciling Florence to the holy see. During her short life here on earth she was at times subject to the most terrible temptations, but Christ appeared to her and comforted her. She died at the age of thirty-one.

Catherine of Sweden, St., daughter of Prince of Nierck and St. Bridget. Placed in a nunnery of Risborg when seven. Became abbess of Vatzen and died in 1381.

Catherine Hall, Idontical with St. Catherine's College, Cambridge. The collego was opened on St. Catherino's Day. 1473. Its foundor was Dr. Robert Woodlark, who had been chancellor of the university in 1459 and 1462. The subjects laid down for study were such as tended to 'the exaltation of the Christian faith, the defence and furtherance of Holy Church, the growth of the selences and faculties of philosophy and sacred theology.' Law, which was becoming a vory lucrativo profession, was rigorously oxcluded, as public feeling was strongly against its being combined with the priesthood. The statutes do not specify any other subjects of study. but other instruction, law not excluded, is now given.

Catheter, an instrument used in surgery for the purpose of allowing the passage of fulds through tubes in the body which for some cause have ccased to allow passage naturally. Thus, it is introduced into the urinary Thus, it is introduced into the urinary biadder of persons unable to pass their urine or into the enstachan tube when it is stopped up by catarrh. It is a hollow tube made either of silver (by reason of its cleanliness), or of a more fiexible material, such as gum clastic or valcanised rubber. The urinary married, consequently separated vilcanised report. The mining Devoted her life to nursing the lepers of the male is about 10 in. long and curved into a requisite shape, which in the ease of the flexible materials can be produced by warming and bending. In the female the straighter. The introduction of the instrument must be carefully performed. The custachian C., which is generally of silver, is curved slightly at one end and about 7 in. in length. Cathetometer, an instrument for

the accurate measure of small differences of height or of level between two near points. It consists of an upright graduated rod, earefully levelled Lord scated in glory in the midst of in a vertical position, upon which a His disciples. On another occasion she received the stigmata or super-down. The rod is provided with a constructed for the physicist, with extreme use of symbolism being one numerous additional arrangements of the main features of the cult. See to ensure accuracy, such as crosswires and the micrometer cycpiece of Irringism, 1878.

of Irvingites, given to them on account of their connection with the Rev. Edward Irving. Irving, when a minister of the Scottish Church, the early church were to be continued throughout the new dispensation.
Just at the time there came reports
of miraculous gifts of healing and of tongues, and his congregation received them as authentic. In 1832, Irving was deposed from the ministry, and formed a congregation which later took to itself the title of C. A. C. This sect does not differ in any of its dogmas from the church catholic, but it superadds complicated ministerial arrangements. After Irving's deposition, at meetings held for deposition, at meetings neld for prayer, certain persons claiming prophctic gifts marked out six others as 'called to be apostles of the Lord.' In 1835 six others were designated in the same manner to complete the number of twelve. These apostles are invested with the special spiritual powers of the apostles; they alone powers of the apostles; they alone can ordain. To them is committed the discipline of the church universal, and the care of the mysterics of God. They alone have the power of inter-preting the sayings of the prophets. The apostles then proceeded to ordain others to the ministrics of prophets, They alone have the power of interpreting the sayings of the prophets, all the secondary creditors affected
the apostles then proceeded to ordain
others to the ministries of prophets,
and pastors, and also to
choose seven deacons to look after
temporal affairs. The duty of the
prophets consists in exhorting to
holiness, interpreting Scripture, opening
prophecies and explaining symbols. The chief work of the exangelist
tranfed to Roman Catholics in the ing prophecies and explaining symbols. The chief work of the evangelist bols. The chief work of the evangelist granted to Roman Catholics in the is missionary endeavour, and the United Kingdom and Ireland at the pastor has the charge of individual engregations. The original plan was ning of the 18th century and begin to form a central governing body of mation, Roman Catholics in both forty-eight apostles to contro. forty-eight apostles to contro' church universal, but this has heen carried out. The last c

vertical scale which indicates the original twelve died on Feb. 3, 1901. difference of level between the two The liturgies of the C. A. C. are liturgiopoints under observation and the logically excellent, being based on difference of height between the two those of the Anglican, Eastern Orthorn the Company of the Anglican, Eastern Orthorn Charles objects in the distance traversed by dox, and Roman churches. There the telescope on the vertical har. As is an abundance of ceremonial, an

wires and the micrometer cycpiece of the the telescope, the C. records with a high degree of accuracy. One of the most usual uses is to test the difference between the levels of the mercury in the tube and in the cistern of a barometer.

Cathode, or Kathode, see Anode for one nation alone, whereas Christand Electrolysis.

Catholic Apostolic Church, the designation of a body of Christians who are better known under the name of Invitorities given to them only the apostles showed where the by the apostles showed where the apostolical traditions had been handed down. Hence the C. C. was the term used to denote the body of orthodox Regent's Park, London, turned in Christians, in opposition to local the direction of mysticism. He in sectarics. This notion of orthodoxy sisted that the miraculous gifts of acquired prominence in the East where the Holy Orthodox Church maintains the ancient faith. In the West, the growth of the papacy as the centre of church government led to the word 'Catholic' meaning 'in communion with Rome,' When the Reformation came, the Reformers did not all repudiate the term Catholic, and the English Church retained the word in her creeds. But by common consent the word Catholic continued to be applied to the Roman Church, and this usage generally continues, more especially on the continent, where the reformed churches were more violent in their changes than was the church in England.

Catholic Creditor, in Scots law, where a creditor's deht is charged on scveral different parts of his debtor's property, he is called a C. C. A C. C. may realise simultaneously all his securities if necessary for fully satisfying his debt. But he is bound to allocate his catholic (Gk. καθολικός, universal) deht proportionally against

made felony for a foreigner and high canonical. were not allowed to purchase land, and persons educated in the Roman Ireland, property. In nearest Protestant relative. Roman Catholics were not allowed to under-take the guardianship even of Roman Catholic children. In 1780 a bill by Sir George Saville was introduced to repeal the most oppressive of these regulations in the case of those Roman Catholies who would submit to a certain test. This test required the denial of various doctrines subversive of the state such as: that no faith is to be kept with heretics; that princes excommunicated may be deposed or put to death, and that the pope has any temporal inrisdiction in England. This bill passed, but the effort to include Scotland under it led to such outbursts of fanaticism that the project had to he dropped. The Gordon Rlots in England occurred at the same time out of sympathy. In 1791, another bill was passed, still further lightening the Roman Catholic burden, and in 1792 this act was lightening made to comprehend Scotland. Meanwhile the agitation among Irish Romanists to secure similar concessions was by no means successful, though here the laws were strictest. Attempts had been made in 1780. and the discontent finally broke ont in the rebellion of 1798. In 1824 a in the rehellion of 1798. Association Catholic was Roman thc formed under influence οſ O'Connor, stimulated by the fact that many of the reforms which had been promised in order to bring about the Union in 1801 had not been carried out. In 1829, the Duke of Wellington reinctantly came to the conclusion that the peace of the empire would be imperilled if the numerons disabilities were not removed, and the Catholic Emancination Bill was carried, followed in the same year by the Catholic Relief Bill. This gave Roman Catholics the right to sit in the Houses of Paliament, and gave them admission to most civil offices. At the present time no Roman Catholic may be Sovereign, Regent, Lord Chancellor, Lord Keeper, of Great Britain, or Lord High Commis-sioner to the Church of Scotland. Catholic Epistles, the name given

to seven epistles among the canonical hooks of the N.T. which are addressed to the church universal and not to the Christians at particular towns. Of the seven epistles, those bearing the names of James, Jude, Peter (2),

The saving of Mass in England was I. were at first generally received as The title 'Catholic' distreason for a native. Roman Catholics tinguishes this group of epistles from those hearing the name of Paul.

Catholic Truth Society, established faith were incapable of inheriting in Great Britain for the spread of Roman an intelligent comprehension of the Catholics so holding land could be Roman Catholic faith. It was founded dispossessed without ceremony by the in 1872 by Dr. Vanghan, but it was revised, enlarged, and almost recom-menced in 1884. Its work is both educational and propagandist. It provides and circulates among Roman Catholies, hooks of devotion, and works of instruction on the faith with polemical works enabling them to defend their position. It also publishes hooks for Protestants, explaining and defending the faith and practice of the Roman Church. endeavours generally to promote the sale of cheap Catholic books of any kind. All its works are popular, and at low prices, the general price being one penny. The society is non-politi-cal, and has the cordial approval and support of ceclesiastical anthorities. The head offices are at 69 Southward

Bridge Road, London, S.E. Catholic University Question, Ireland. The demand by Irish Roman Catholics for the establishment of a Roman Catholic University began even before the time of Disraeli. The House was for years consistently opposed to the proposals for any Roman Catholic endowment, Disraeli basing his personal opposition to the establishment of a university on the support given by the Irish Catholic memhers to the disendowment of the Protestant Church of Ireland. In Feb. 1891, Mr. Dillon raised the ques-tion in reply to the speech from the throne, and endcavoured, in detailing the history of the agitation which hegan in 1856 and was made a cahinet question in 1896, to show that the demand was made hy Protestants and Roman Catholics alike as a matter to be settled on non-party lines. The gravamen of the case from the point of view of the agitators was that a large number of Irishmen were precluded from the enjoyment of university education. honours, and emoluments, on account of conscientions religions opinions reor conscientions reignors opinions re-garding the existing system of educa-tion. From 1873 there existed the University of Dublin and the Royal University, but those Institutions failed to satisfy the demands of the Roman Catholics, who alleged that Dublin University remained practically a private college, and the Royal University no more than preparatory colleges for Dublin. Mr. Balfour (then First Lord of the Treasury) spoke in support of the amendment, and agreed and John (3), only John I. and Peter with the mover that the amendment

nominational university, but to give higher education for a majority of the Irish population irrespective of any legislative protection for the Roman Catholic creed. Mr. Lecky, then member for Dublin University also spoke in favour of Mr. Dillon's amendment recording his experience that such sectarian colleges as did exist were shunned by the Irish bishops, and that out of 3,250,000 Roman Catholics there were not more than 300 Roman Catholic students in state endowed colleges. Notwithstanding the arguments in favour of the amendment it was lost without a division. Nothing was done during the next three years, but Mr. Balfour continued to give the ngitators his personal or non-party support, and with a view to rousing inquiry published in the Times a letter suggesting the establishment of two universities in Belfast Dublin respectively, the former to be under a Protestant, and the latter a Roman Catholic governing body. Royal Commission was appointed in 1901 to inquire into the C. U. Q. The report of the Commission, which had not a single Irish Catholic layman upon it, stated that the Roman Catholic population of Ireland, which was in an overwhelming majority, were without any adequately endowed university, and in much the same terms as Mr. Balfour's speech in 1895 pointed out that apart from any question of denominations, the matter could only be settled definitely by formulating a schemo satisfactory to the Roman Catholics. In summarising their conclusions the Com-The present dcclared: arrangement by which the degrees of the Royal University are attainableby examination alone has lowered the ideals of university life and cducation in Ireland and should be abolished, and that the system by which, in making appointments to the senate and offices, account must bo taken of the religious profession of the person to be appointed, with a view to maintaining an even balance between churches, is educationally unsound. The Commission recommended the endowment and equipment of a new college in Dubliu on the scale required by a university college of the first rank, that college to be for Catholies. Notwithstanding these recommendations the C. U. Q. remained in abeyance for two years. when, in April 1905, the matter was fully discussed in the debate on the civil services and revenue estimates, Mr. Murphy, member for Kerry E.

did not propose to establish a de-| versities was totally inadequate. Once again the amendment was lost, the Opposition basing its objections to it on the ground that Trinity College, Dublin, afforded sufficient facilities. and that university education should be undenominational. The difficulty in the way of the supporters of the amendment lay in the fact that the Opposition believed the whole agitation to be a device or plot on the part of the Irish priestly hierarchy to get complete control, by means of denominational tests, over higher education in Ireland. A curious feature in this debate was that Mr. Balfour, then Prime Minister, voted against the amendment, scenningly for no other reason than that the majority of the electorate in England and Scotland were as yet against the proposal. In 1908 the Irish Universities Act was passed, which provided for the substitution of two new universitles at Dublin and Belfast for the University and Queen's Trinity College being left Royal College, outside the Act altogether. The two new universities were made self-governing bodics, free from all religious tests as a condition of holding any position in any foundation under the Act.

Catholikos: 1. The title of the head of the Armenian church. 2. In the later Roman empire the title was given to the receiver-general, or deputy receiver in a civil diocese. In its general sense it seems to have been applied to the superintendent-general of missions or of churches on and beyond the borders of the Roman

empire.

Catilina, Lucius Sergius, a member of a noble family in Rome who has become famous through the writings of Cicero and Saliust rather than by his own desorving. Born about 109 B.C. be took a prominent part in the civil conflicts in Rome, serving under He had high intellectual Sulla. qualities, great strength of body and mind, courage, civil and military capacity; but with all this he comeven in him ture was that brutal and savage, and t stimulated by lustful and this he bloodthirsty revels on attaining a victory. In 67 B.C. he obtained the office of pretter, and went to govern the province of Africa. Here he laid plans for overthrowing the empire, and worked treacherously to gain his ends during Pompey's absence in Asia with the army. Returning from Africa in moving an amendment to the effect tried again and again by conspiracy that the provision in Ireland for uniof the government, in 62 B.C.

Catillus, a fossil genus of mollnses allied to Crenulata and Perna, received its name from Brongniart. In the chalk occur species of large size, remarkable for their largely fibrons texture, from which circumstance Sowerhy called them Inoceramus,

Cat Island, see BAHAMAS.

Catkin, or amentum, the botanical term applied to an inflorescence which is a crowded, often greenish, more or less pendulous, spike bearing male or female flowers. In the oak. male catkins, and both male and female in the willow, poplar, and hirch.

gradually dying ont, who were he lived amongst them in order to become acquainted with their ens-toms, manners, and language. He came to Europe in 1840, and snh-mitted many palntings and sketches, most of which are now consigned to the National Museum at Washington. In 1841 he published The Manners, Customs, and Conditions of the North American Indians, with 300 illustra-tions. In 1844 he published The North American Portfolio.

Catmint, or Catnip, the name applied to several plants on account of the fondness which cats exhibit for their odour. The term is particularly applied to Nepeta Cataria, a species of Labiatæ which is related to the ground-ivy; the flowers are white, spotted with pink, and are arrayed elosely together. Other species of *Nepela*, such as *N. cærulea*, which hears bine flowers, are called C. Anisomeles malabarica, Calamintha officinalis, both belonging to the Labiatæ, receive the names of Malabar C. and medicinal calamint

or C. respectively.

Cato, Dionysius, is the reputed author of Dionysii Catonis Disticha de Moribus ad Filium, a book of injunctions and precents which was very popular in the middle ages. It was translated into many languages, and Caxton printed a version at Westminster in 1483. Each apotherm is enclosed in a couplet of dactylic hexameters. The tone of the book may he described as mono-theistic rather than Christian. There is an amusing reference to it in Chaucer's Nun's Priest's Tale. Nothing at all is known of the writer.

Cato, Marcus Porcius (96.46 B.C.),

surnamed 'Utieensis,' was the great-

was constantly foiled by Cicero. He serving as a military tribune in Macefell, still fighting against the forces donia, he gladly renounced fighting for a provincial appointment in Asia, where he learnt so to appreciate the merits of the general, Lucuilus, that he gladly supported his claims to a trinmph against the vainglorious ambitions of Pompey. Though be ambitions of Poinpey. Though be was no politician, Casar found it worth his while to despatch C. on the unpopular mission of subduing Pto-lemy in Cyprus, 58 B.C. For C. had unflinehingly opposed, first, his five years' command in Gaul, then his candidature for the consulate in 59. and finally his agrarian laws for rehazel, and sweet ehestnut there are warding his veterans. C.'s pretormale catkins, and both male and ship in 54 was characterised by his inate catains, and oth male and simplified was characterised by ins female in the willow, poplar, and hirch. sturdy effort to suppress bribery. In Catlin, George (1796–1872), and 49 he had already decided to retire American painter and author who was also an ethnologist. Deeply introduced broke out, and he determined to terested in the American Indians, crush the tyrant, Casar. Having persuaded the senate to give the supreme command to Pompey, he crossed with the latter to Dyrrhachium, where he remained when his general marched to defeat at Pharsalia. With a remnant of troops C. crossed the Libyan desert, and shut himself up in Utica until he learnt of Scipio's fall at Thapsus, when he stahhed himself rather than surrender to Addison's tragedy of Cato gives a vivid picture of the heroic end of this uncompromising Stole: his last hour was spent in reading Plato's dialogue on the soul's immortality. Posterity has perhaps magnified his tame because he was the last of the old order of Romans to die for a national ideal, which he could not realiso was an anachronism. Nothing gives greater insight into his character than a remark of Ciecro's to the effect that he acted as if he were in the republic of Plato instead of in the dregs of that of Romulus.

Cato, Marcus Porcius Priscus (234-149 B.C.), 'the Censor,' a Roman statesman, was brought up like his plebeian forefathers as a farmer, but in consequence of the patronage of L. Valerius Flaceus he became suecessively questor, ædile, prætor (198), and consul at Rome (195) with rlaceus. As a soldier he distinguished himself for his valour and for his valour and to the control of the cont extreme severity both during the Punie War and his command of Sardinia. Both in the final defeat of Hannihal at Zama (202) and in the battle of Thermopyle (191), wherehy the Greeks were rescued from the aggressions of the eastern conqueror, articolys III. Be played a con-Antiochus III., he played a conspicuous part, whilst his cruel subjection of the Celtiberians in Spain (194) earned him a triumph. In his grandson of 'the Censor,' and the last | projects of reform and in his enmities of his name known to history. After he showed alke passion and sincerity.

Scipio Africanus for corruption-during the Carthaginian War he had often reproached the famous general for his luxury—and lus incessant cry of 'Delenda est Carthago 'shows how much the prosperity of the rival city Catrine, a tn. in Ayrshire, Scotland, had aroused his hatred. His reforms 21 m. E.S.E. of Mauchline. It manuvere largely in the shape of summ. were largely in the shape of sump-tuary laws, designed to cheek the growing extravagance of dress, and banquets. These were carried out during his celebrated consorship. when he also thoroughly revised the senatorial and equestrian lists so as to keep out upstarts and forcigners. Both Cicero and Livy are fond of eiting C. as the model of a Roman citizen in the republican days. His personal integrity and rugged simplicity, his stern sense of duty and rigid discipline, his frank hostility towards the new Hellenie culture, and his narrow patriotism became a hyword. In his cont and in l

family, he showed the violence of his conservatism. His De Re Rustica, a treatise on agriculture, has literary merits and an historic interest, which cause the reader to regret that his magnum opus, entitled Origines, which was a comprehensive history of Rome, should have been lost.

Catoptries, that part of the science of light or optics which deals with laws of reflection. See Reflecti .

LIGHT.

as a silver and tin mining centre, and has numerous smelting works. Catostomus, a genus of fishes of the

family Cyprinide, which are peculiar to the rivers of N. America. They are

London, to seize the Bank and the revealed to the police by one of the hardness of the C. is 8.5, and the revealed to the police by one of the hardness of the C. is 8.5, and the

called from the place of meeting in salts of phosphorus, but untouched Cato Street, Edgeware Road. by acids. There are three varieties of

It seems certain that he was largely either side with a breadth of from 20 responsible for the prosecution of to 26 ft. and 50 m. in length, which extends from near Galashiels, through Selkirk and Roxburgh, to Peel Fall in the Cheviots. For an account of the various theories about the C., see Blackwood's Magazine, 1888.

factures cotton. Pop. 2458. Cats, Jacob (1577-1660), Dutch poet and humourist, studied law at Leyden, and later won renown as an advocate for his defence of a witch. His attack of tertian fever, hrought on by a grave disappointment in love, lasted for two years, but was finally cured by a quack. Part of his life was spent on a farm at Grypskerke in Zeeland. Driven from his farm by the collapse of the dykes, he was for some time stipendiary magistrate at Middelburg and Dort, whilst in 1636 he became Grand Pensionary of Holland, and twelve years later Keeper of the Great 'al. A knighthood was one result of embassy to Charles I. of England

1627. The somewhat arehaic character of his style and subjects has deterred many a student from read-ing his poems. Yet in spite of his lack ing his poems. Yet in spite of his lack of terseness, 'Father Cats,' who was by creed an Orangeman and a Calvinist, enjoyed for many years a great vogue. His Houwelyk, 1625. and the Trougring, a collection of tales about curious marriages, as well

Catorce, a tn. of Mexico, in the state of San Luis Potosi, 120 m. N. Cat's-eye, a stone so called from its of the town of that name. It is noted likeness to a cat's eye. It is another likeness to a cat's eye. It is another variety of chrysoberyll, and is found in Ceylon, China, Brazil, and Malabar. The stone, when cut only but not polished, if the structural arrangeare ment is perfect, produces a narrow the and distinct line of light which much distinguished from their ally, the and distinct line of light which much carp, by having their lips thick and resembles that emanating from the carp, by having their lips thick and presented that the eye of a cat. The a short and fin.

Cato Street Conspiracy, a plot formed in London in 1820 to murder lovish or greenish tints, or some-Lord Castlereagh and the rest of times it is the palest apple green the ministers at a dinner at Lord or a deep olive colonr. The line of Harrowby's on Feb. 23, to set fire to light when held in front of the eye colors the Paul and the should cross the centre of the dome. London, to seize the Bank and the should cross the country of the Mansion Honse, and proclaim a pro- and be narrow and well-defined. The should cross the centre of the dome

> with iridescent ray-the ; imperfect, the fracture It is moreover doubly It is soluble with borax or

Catrail, known as the Pict's Work; the name given to an earthwork, consisting of a ditch with a rampart on trous than the C. belonging to the

Crocilite C. or Tiger's-eye, which is cit and artificially coloured. It is a mncb softer stone and of a silky lustre.

Catskill Mountains, a large range of well-wooded mountains belonging to the Appalachian system of North America; they are situated chiefly in Greene County and form one of the most beautiful situations in America. Their sides are very steep, and they attain to a height of nearly 4000 ft. in The chief peaks are some places. Round Top, Peak and Overlook Peak. An hotel has been erected on the lastnamed peak, and stands at an elevation of 3800 ft. The village of Catskill lies in the state of New York, and is 34 m. distant from Albany. It is the capital of Greene County, and is hilly with irregular roads. A steamhoat service with the standard of th runs between Catskill, New York, and

other places.
Cat's-tail Grass, or Timothy Grass,
the popular name of Phleum pratense, a species of Gramineæ which flourishes in all temperate countries but Australia, and affords good fodder. The inflorescence has free glumes and two

distinct paleæ.

Cattaro: 1. A strongly fortified Austrian seaport in Dalmatia, at the head of the Gulf of C., 40 m. S.E. of Ragusa. lying between the Monte-negrin Mts. and the Adriatic. The town, hesides heing a strongly fortified military station, has a cathedral, straits.

Cattegat, an arm of the North Sea. some 150 m. in length, joining the Skaggerak on the N. and the Baltic on the S., and bounded E. and W. by Sweden and Jutland respectively. Its sandhanks endanger navigation.

Cattermole, George (1800-08), born in a village near Diss in Noriolk. A celebrated English painter, principally in water-colours. He hecame an associate of the Water-Colour Society in 1822; received a first-class gold medal at the Paris Exhibition of 1855; studied oil painting in later years; illustrated the Waverley Novels and other books. His chief forte was the painting of medieval scenes, and his areas, and it is found in all parts of principal works include 'A Terrible the country. These districts are also

chrysoberyll variety. There is also | Secret' and the 'Murder of the Bishop of Liège.

Catti. or Chatti, were an ancient German people who lived in a district round the higher reaches of the Weser. etc., corresponding roughly to the In the first two modern Hesse. centuries A.D. they frequently fought against Rome, and were finally incorporated with the Franks in Clovis'

kingdom. Cattle. The infinence of British breeds of C. has been felt in all parts of the world, which in itself is evidence of their value. The Shorthorn is the most cosmopolitan breed in world, and it is the most commonly distributed breed in these islands. There are many other breeds, each having valuable characteristics, and their value lies in their inherent good features and the genius of the men who developed them from the unimproved condition in which they were found subsequently to the first great improvement which was wrought on the Longhorn breed by Bakewell in the latter half of the 18th century. There is little use in discussing breeds previously to this period, for, on the whole, the origin of British breeds from the earliest periods is still a subject of dehate, therefore is not specially helpful to the modern hreeder. What did occur was that gradually, in accordance with soil and climate, local hreeds-some widely spreada naval school, and gives its name to had established themselves, and where a see in both Roman and Greek the locality, district, or area was very churches. One time the capital of a similar over a sufficiently extensive churches. One time the capital of a similar over a sufficiently extensive small independent state, C. in 1420 country, animals took to themselves joined the Venetian republic, but was ceded to Austria in 1814 by the characteristics for them to be establiance, in 1863 and 1867. Its transit is dearcoss the Montenegrin frontiers and parts of the country where the trade across the Montenegrin frontiers soil was so diversified that no special is impeded by heavy tariffs. Pop. type was found, because the varying (1900) 3021. 2. The Gulf of C., a wide inlet of the Adriatic, length 20 m., and depth 15 to 20 fathoms, consists consistent features. Speaking broadly, of three basins connected by narrow it is vet found that where local and depth 15 to 20 fathoms, consists consistent features. Speaking broadly, of three basins connected by narrow it is yet found that where local animals were carefully improved, and became one of the recognised breeds, it is well to regard them as the foundation on which breeds kept in those localities should he built. In the districts where the soil varies frequently, and consistency is met with in only small areas, there is no breed which is actually identified with them, consequently outside breeds, having

well just to consider what is meant hy 'improved' C. Unimproved C., as a rule, fatten and mature slowly, and yield a moderate supply of milk. The object of the hreed maker or breed improver is to select animals which conduce to one or hoth of these pur-poses. To a great extent these two purposes are antagonistic, and where the development of beef with its necessary accompaniment of being capable of attaining early maturity—that is, ripened heef at an early age—the milking properties are usually de-teriorated; whilst with high milking properties it is only the exceptional animal which possesses meat-making capabilities in a marked degree. The fusing of these two properties, especially in respect to the Shorthorn, is the aim of certain hreeders at the present time, and they have met with suffieient success to go farther; hut it is unreasonable to expect that cows giving a large quantity of milk, and taxing heavily, and developing annormally, certain organs, will keep pace with those animals where the whole of the energies of the animal are directed to the specific object of the rapid production of meat. Nevertables theless it is a fashionable pursuit at the present time to aim at the dualpurpose Shorthorn, and for some time is likely to be a very profitable one for those who can achieve the best results. It may he noted here that some Continental breeds have superior milking properties to the generality of British hreeds, but not so extravagantly as some would have it believed. British breeds have always shown an aptitude to produce meat, and whilst the human population of these islands was comparatively small, and beef rather than milk was needed, British hreeders were right in paying most attention to beef; and this country. and practically the whole world, have enormously benefited thereby. The increase in population and in milk consumption have turned the modern farmer towards increasing the milk-ing properties. In the division of the hreeds of C. the meat and milk proelivities have to he borne in mind; and the common division emphasises and the common division emphasizes the fact that, in the main, the hreeds as they at present stand are essentially either meat producers or milk producers, or are more or less indifferent, as compared with the best, and the standard of th

much associated with the keeping of , Red) and the Red polls as dualross-hreeds. C are kept with two purpose hreeds; though, whilst recognain objects, the production of beef and of milk, or both, and a very common division of the hreeds is are Red Polls. The animals of heavy made in accordance with these. It is build, emphasising the features of meat producers, and when possess-ing the faculty of producing meat quickly are rarely of good milking; capabilities, are the Hereford, Aber-deen Angus, Devon, Sussex, Long-horns, Welsh C., Galloways, and West Highlanders. The light breeds with recognised milking properties yielding exceptional quantities of milk in ratio with their weight, are the Jerseys, Guernseys, Ayrshires, and Kerries. Among minor hreeds exercising little influence outside the district to which they are indigenous are Zetland or Sheiland C. (showing much in common in respect to outward form with the Dexter); common Highland C.; an occasional breed of wild white C. of no economic importance; Highland C. other than West High-landers, and inferior to them; the native Brindle breed of Iceland, very inferior, is practically hred out: a few local unselected animals, generally mongrel in type, such as the New Forest, Sheeted Somerset, etc., which are not encouraging to the selector to take in hand. Whilst there are the pure hreeds mentioned, pure breeds are in relatively small proportion to the cross-breeds, or the animals of which the pedigree cannot be traced, though classed as helonging to the breeds to which they most approach. Animals, however, may be pure hred, although the pedigree may not have been kept, because, provided the dam is the offspring of five generations of dams sired by a pedigreed buil, they are entitled to be called pure bred. It is the keeping of a record of the breeding from animals entered in a herd hook that establishes an animal as a pedigree animal; the value attaching to a pedigreed animal bes in the fact that where a pedigree is kept it is assumed that there will be more care in the selection of the sires; but this is an assumption, admittedly commonly correct, although there are some unpedigreed C. really better hred than some which are pedigreed. A pedigree is valuable when it records skilled mating and selection over a long period, but if it records the results of unskilled mating it may be harmful; for if bad features are perpetuated for a long series of generations they become established to the prejudice of the offspring. It has been said that the Shorthorn is the most eosmopolitan breed. in both respects. There are few who results from the several breeds inwould include more than the Short-eluding some of Continental source, horn (either Coates or the Lincoln which went to form the Durham

breed, which subsequently became most felt in the bigger arable districts known as the Shorthorn. The Shorthorn is found in all parts of the country; and in most cases does well, in many far better than any other breed; in fact, it may be taken as a fair axiom that when local experience does not direct to any specific hreed, it is safest to take up the Shorthorn. But there are districts where it is better to take up other breeds. As a grazing beast the Shortborn is seen at its best on rich pastures, it is really a very highly bred animal, and, if pasturage is really good, is sure to do well; but it is not the best breed on many poor pastures. For instance, a Shorthorn will do well on rich Sussex pastures in summer when the pasturage is good, but a native Sussex beast will keep in good condition on the same pasture in autumn when it has lost its best feeding powers, whilst the Shorthorn will go back quickly in sondition. Planty of other illustracondition. Plenty of other illustrations where other hreeds are kept in their Indigenous districts could be taken showing their advantage over the Shorthorn, except on the best pasturage at the best season. Moreover, a Hereford on the good pastures on the Red Sandstone will beat a Shorthorn in the point of profitable feeding. It is difficult to draw hard and fast conclusions, because experi-once produces conflicting evidence; once produces conflicting evidence; but except on the richest pastures on heavy land the Shorthorn is not so well adapted to very heavy land as are the native breeds of middle horns, as illustrated by the Sussex breed in Sussex, the Devon in Dovon, the Hereford in Hereford, and on the Red Sandstone generally. Climatic conditions also have their influence, and the shortcoated Shorthorn does not thrive so well under the same exposure as that where the long-coated West Highlander flourishes. Nor is the Shortborn generally so well suited to the high and wet hills where local breeds have become acclimatised and thrive well. It is evident, therefore, that where the animals have to spend a considerable portion of the year on pasturage, it is not correct to say that any one breed is universally the best; though it can safely be said that the Shorthorn is the best over the greatest area. The Hereford, the Welsh, the Sussex, and the West Highlanders can be taken as examples of breeds which thrive well on rough grazing in winter time, even outside their indigenous districts. But the grazing value of a breed does not altogether settle its profitableness to the farmer; the yarding capabilities have to bo regarded; naturally, this bears more where the grazing season is short and the yarding season is long; and this is

where winter grazing is almost unattainable, but where there are many swedes or turnips to feed and much straw to browse. Here the Shorthorn makes its special value felt, as does the Polled Angus, another splendid heefer. The Hereford, Devon, Sussex, Galloway, Red Poll, and Welsh (both the N. and S. Wales or Anglescy and Castle Martins) yard well. The grazing counties are the rearing homes of the greater number of calves, though, of course, dairying districts are the chief breeding grounds; as dairying is largely carried out in pasture districts many are raised in them; at the same time large numbers of calves are taken from their mothers very soon after birth, and are seut long distances to be weaned. The calves from the great milking districts of the Vale of Ayleshury, Somerset, Cumberland, and other places are in great demand among raisers of heifers in other parts because of the good type of cow kent Consequently, the auimals kept throughout the country are hy no means the produce of the district in which they are found. It is much to be regretted that the dairyman of the typo which keeps animals near to towns, and who, having little accommodation for off lying cows, does not pay more attention to breeding good animals. As it is, knowing that the calves will not be raised by him, and assuming he will get little more for a well-bred calf than a good one, he too often uses a very inferior bull. The policy is a bad one, as those who maintain a good class of calf can always be assured of profit from a good one; moreover, be limits the supply of good calves, consequently finds greater difficulty in buying good cows, and has to pay more for them than he otherwise would, and, of course, the steer calves are inferior for meat production. This negligent for meat production. This negligent breeding largely counteracts the good effect wrought by those who devote themselves to the further improvement of breeds. Farmers raising their own stock as a rule are very careful in their breeding; but the dairyman and small holder, as a rule, have need to alter their methods. With all the good stock there is in the country, and with high class bulls of every breed, now purchasable for very little more than inferior ones, there is no economy and great harm done by using other than well-bred ones. Many inferior calves are fattened for veal, and no small number of the worst go at a nominal price to the sausage maker. Male calves from the lighter milking breeds have little value for the beef producer, as they do not give anything like the return

Cattle

that can he obtained from the same is not present in empty cows, can be quantity of food expended on animals felt. It is unwise to do this too freof strictly beef-making hreeds; and quently, as there is risk that through this to some extent detracts from the keeping of this class of cow. The cow carries her young nine months, and to arrange

· ahout May wo months will work

back into the winter menths by the time she is in full profit. A cow is regarded as at full profit at her third calf, and if she is hred from regularly the next four calves go further hack, so that the period when she gives her fullest yield will be at the time of year when milk is most valuable. A considerable difference of opinion exists as to the best age at which a cow due to the different purpose ideals individuals hold as beir aimed at; but ordinarily the framed milking breeds which little value comparatively whe

are bred from when youngest, many | should be administered. thinking that from two years to two keepers great fear is that his eows and a quarter years best; whereas may about or present their calves there are advocates among the keepers of heavier breeds for three years as being best, though from two and a quarter to two and three quarter rears cover most. Where animals are hred from when young it is necessary to keep them better than when they are older and have less growth to make. Heifers need to be strong when they breed, and should not be allowed to get into poor condition. Cows after drying off, on off-lying, or down calvers, are generally kept inexpensively, but if allowed to get low in condition commence their milking with a poor yield, requiring very liberal feeding to get them into full milk. Some cows dry off very carly, and have a long off-lying period, dur-ing the first portion of which they may be kept on moderate dict, hut eows which milk but a short period, except from some special cause, such roomy calving boxes should be avail-

as illness, prematurely milk flow, are rarely on, though some of th

highly during milking with the view of getting a full flow, and then send-ing out the eows fat to the buteber, practically always demand cows to he in good flesh when they purchase. With the strictly milking breeds the animals are not often fattened out With the strictly milking breeds the weaned on the premises, it is wise to animals are not often fattened out continue dressing longer, in case any from the cow byre, and the same full law place may have revealed itself, flesh is not demanded in a newly ealved eow. As pregnancy advances, the young ealf or fectus can be detected by pressing the flank on the right side, when a hard lump, which

excitement the feetus may be expelled. If a cow well advanced is watched when it drinks cold water, movement of the calf can generally be noticed. As the time for calving comes near, the udder and teats enlarge and become firm. The liquid from the teats becomes less watery and more milky, whilst more nearly to the time the root of the tail appears to stand higher, though this is not the case, but the bones at the base of the tail fall away through the loosening of the pelvic ligaments, thus making an easier passage for the ealf. The appearance of the water bladder indieates immediate calving; generally should produce her first calf; this is the cow needs no assistance, and it toosoon. After nash, or water

meal, should be eatly distressed whisky or heer ed. The cowwhen immature; this often takes a contagious form causing severe loss over years, and when this occurs those who are not acquainted with the necessary treatment should at once consult a veterinary surgeon, and carry out his instructions with utmost care. Cows about to carre should be watched carefully for some time before the nine months is up, as

there is not absolute certainty of the

diseases through contact with germs, which are liable to accumulate about huildings where cows frequently calve and which often attack through the navel of newly born calves. not always convenient at night, and

ing taken to keep the s well disinfected. Ťο against germ attack,

be placed at once on a able for that purpose, often milk but elean sheet, and the navel be dressed a short time. Dairymen who feed with antiseptic, such as carbolic oil, dilute lysol, etc. After the navel hardens there is only a small danger of disease, though if there has been much seour, navel ill or joint, or other disease among eontagious

he germs

It can stand, and weakly calves should ment.

the mouth, for them; the first or beistings is a special provision of nature suited to the digestion of the infant calf, and is very rich; more-over, it is held to set the digestive channel into action, and certainly calves which have the colostrum are less liable to constipation, than when fed on milk from staler cows. cow will instinctively lick a newly-born calf whilst it is in a slimy condition, and it is well it should as it acts as a form

the vitality o' accepted as Cows sometimes become very excited on first seeing the call, and maternal solicitude and pleasure may be shown in the unpleasant form of tossing or kneeling on it, to which it Caution is most quickly succumbs. needed in the case of cows which have been kept in town dairies, and which have never been allowed to see their offspring. When taken to a farm, and the motherly instinct is gratified, they sometimes go practically mad with joy, and may attack both the call and attendants. It is, therefore, well to be acquainted with the history of the animal. Until recent years there was great loss of eows which 'dropped 'after calving; that is, had milk fever or parturient apoplexy. Injections of fodide of potassium into the teats inaugurated successful treatment by injection, but other suboxygen gas are found to be efficacious with or without a drug. When instituting this method of treatment it is advisable to do it under veterinary instruction, especially as after treatment must be carefully observed; but In view of the great success achieved, and the considerable value of the animal, there is no doubt that this form of treatment should be followed. and older and very donbtful methods not be used. The great advance in veterinary knowledge should greatly encourage all keepers of live stock to employ veterinary surgeous freely. Old treatments, much relied upon, in many cases appear absolutely ridieulous when the light of modern knowledge is thrown npon them. Cows sometimes 'drop' from other causes than parturient apoplexy, and simple remedies and attention will get them on their logs again, and many relatively ignorant cow doctors have

sometimes prohibitive unless pre- gained reputations as being able to ventive means are taken, as by dress-cure milk fever on the strength of ing the navel. The call should be their success in these cases; but it is ing the navel. The call should be their success in these cases; but it is allowed to suckle the cow as soon as courting loss to rely on such treatment. Amateurs who practice the injection method should be fully impressed with the need to thoroughly disinfect everything associated with the process; failure to do this has caused the loss of life to many cows. When calves are brought up by suckling their mothers, rearing is comparatively simple. It is expected of a cow that she will maintain her calf and give a considerable quantity of milk besides; in fact it is a poor milker which will not rear two at once. Many farmers make a cow rear five during the course of a milking; two during the first three months, two during the next three, and one subsequently. A calf at three months can

nen, meagn it sam or separated milk is available it will be greatly to the advantage of the calf. The rearing of the calf for three months on new milk is expensive. except when milk is very cheap, and as winter-born calves are favoured because they will be old enough to take advantage of the young grass in early summer, many rearers do without new milk, or give it only during the first week or two, continuing the rearing on skim milk, to which is added a cheap oil and suitable meals, or one of the specially prepared calf foods or milk substitutes as they are called. Separated milk, owing to the extraetion of the oils or butter fats in the stances such as lysol, chriosol, etc., form of cream, is not a complete food, have been successfully used, and now and the fat must be made good either have been successfully used, and now and the fat must be made good either ordinary atmospheric air or pure in the form of oil or some easily digested starehy food. The stances usually recommended substitutes are hay tea, linseed tea, Indian corn, wheat, harley, oats, peas, beans, sugar, cod liver oil, and ground linseed. At less than 5s. per gallon, eod liver oil is a cheap substitute for the cream extracted. The Irish Department of Agriculture, as a result of their trials, recommend two parts by weight of Indian meal (ground very fine) and one pa: there is no

held until the sixth week; but under

seed cake meal and linseed should

form the chief basis of the gruel, and

a little sago is useful to prevent ecour.

Many call rearers make a mistake in

giving hay too early; it is best with-

digestion is overtaxed. Whatever food

is given to calves, good results are not; high pressure from birth to butcher. obtained unless the feeding is regular and judicious. Some men have a thorough instinct for rearing, they get few losses, and always keep a good bloom on the ealf; whereas others, with better food, less careful as to times of feeding, quantities, cleanliness, and observations as to the health of the animal at all times, meet with great losses, and rarely make weaning pay. Calves at first should be fed at least three times a day, and cleanliness must be observed in every way. Though rather more costly than simple mixtures made on the farm, unless the feeder can be relied upon to make his mixtures properly, some of the ealf foods sold as proprietory articles are safer, and it is wiser to use them in such cases. A large number of calves die from being too generously fed when they have been unduly fasted: this often occurs when freshly calved calves are exposed in markets, or are sent long journeys to be reared. In such cases, allowing them as much milk as they will take is a form of killing by kindness. A pint of slightly warmed milk at first, to raise the vitality, followed at intervals with increasing quantities, will put the east into a condition which will enable it to get on to full food in two or three days without hurt. Cowmen who open the stomachs after death notice the eurdled condition of the milk, and sapiently state that the milk eurdled. as though that were the cause; but se in the

mise that gastritis, brought ways the

has been drawn. A good seour mix-ture should always be at hand, and nothing is better than one composed as follows: Compound tineture of morphia and chloroform, 4 dr.; liquid bismuth, 4 dr.; oil of cloves, 1 dr.; cooled linseed tea, 7 oz.; giving a tablespoonful every eight hours until better.

The treatment of the calf after weaning, and when it is independent of the eow and hand-feeding, may differ considerably, according to the object in view. The practice of allowing the calf to suckle until it is n year old, as is done with some of the highly bred animals intended for show work, is not possible with ordinary stock to bo sold as beef; though those nnimals

Their food is necessarily rich and concentrated; in fact, they are in reality trained to consume large quantities. Such quantities as are given to these animals at a year old would be impossible to an ordinary yearling, and if they did eat it, their digestion would quickly break down. Winter calves do well at grass during the early summer, and in mild climates, where there is no fear of the husk worm, they may remain out until October, but in cooler districts, where the land is wet and liable to husk, it is found ndvisable to take them in by mid-August or September, or as soon as fogs keep the grass wet. Many rearers prefer to keep the calves in through-out summer, but provided there is shelter from sun there is no objection to even young calves to be out in June and July. When calves from six months upwards come into the yards they naturally receive winter fare of hay, roots, and finely ground cake; though if they receive chaffed hay or oat straw, a small quantity of meal ean be given to encourage their eat-ing it. From 2 lbs. to 3 lbs. of cake a day, with such roots as they will eat, and hay ad lib, make a good ration. As the wintering proceeds this may be increased, according as the farmer is satisfied with the progress they make. In the second year's grazing it is not necessary to give any extra food during summer, though it is not unprofitable to give a small quantity of cake, especially if it is desired to get the stock out early. As the grasses get older and less nutritious, a little cake is needed to keep up the condition, though this is by no means whether always given, as most farmers prefer it comes from chill, injudicious feeding, over exercise, fright, or from the pastures, and defer giving eake contagion entering most generally until they are in the yards, with the through the navel, to which attention wiew of improving the quality of the has been drawn. A good scour mix-yard manure. There is a great deal of difference in the method of wintering animals in the second year, because in grass districts in mild climates the animals are kept out much longer than those in the colder arable dis-triets, where the position of the food supply compels them to go into the yards earlier. In some districts young stock receiving a little cake on grass, with a small quantity of hay in severe weather, if provided with a sheltering hovel to lie under in wet or bad weather, will thrive well up to January. In other districts young stock is rarely seen on the grass after the early part of October. In the second winter, when run as stores, the mninials often get nothing but the which are brought to considerable browsing of straw with roots, and weights at a year or a few months 3 lbs. or 4 lbs. of cake, and will do older necessarily require to be fed at well on it. If required to be fattened

they are rather more liberally fed at first, and are tied up in the fattening sheds on fattening rations, generally actting chaffed or chopned straw, hay, pulped roots, and, according to size and the stage of fattening, from 6 lb. to 12 lbs. of cake, or partly cake and an equivalent of the remainder in the form of meal from barley oats or beans; or such other feeding stnffs as the market prices favour. Some pastures will fatten out two to three year old C. during summer without any help, and a pasture reaches the high water mark of grazing if it will fatten ont a big beast to the acre without aid. It is customary to put those most forward in condition on to the richest grazings, so that they will come on to the market as quickly as possible; because early summer as possine; because early summer meat generally sells well, as there is often a gap between the time when the yarded beasts are finished and before the grazed heasts are ready; moreover yarded beasts do not set so well after killing when the weather is hot. The second grade of C. will be fattened ont after July, and up to the time when those to be fattened in the yards in winter are taken in. The falling powers of the grass will generally occasion the need for help as the season advances. The strong C. going into the yards are generally liberally fed, so that they may be brought to good weights and fattened out before the next spring. Few animals, except lng them to an older age and then those very lightly fed throughout their lives, are kept up to three years of age in these days, as big beef is not in special demand, and under the care and selection made in their breeding, a quiek maturity is found more pro-fitable. The winter feeding does not materially differ from that of the previous year, except that they require more, and will consume, according to size, 50 lbs. to 80 lbs. of roots per day, and in some cases as much as a hundredweight are sotismay run to a stone per day, and make him change from his ordinary harded straw to about the same course. The bnying of cattle at their weight or more; the cake allowance proper value, of course, has a great may start at 6 lbs., and be increased effect on the profit of feeding. In to 8 lbs., adding as much meal. Very some places animals are bonght on much higher quantities are occasionable given, but there is no compare weighed before being offered for sale. factorily given. The hay allowance. to 8 lbs., adding as much meal. Very much higher quantities are occasionally given, but there is no compensatory equivalent in return for the

ont before the next summer's grazing, be in the starchy or carbonaceons foods, otherwise there will be great liability to scour, which is nature's method of relieving the system from over feeding. Linsecd cake is highly nitrogenous, and if too much nitrogen gets into the blood it is practically poisoned through being over azotised, and animals are liable to apoplexy. Fortunately the system generally revolts and prevents the digestion of more than is good for the beast by passing it rapidly through the intestines.

In all matters of C. keeping the farmer has to be guided by his purpose and the nature of the food available. For this reason hard and fast lines cannot be laid down to fit all. as a general rule it may be accepted that the hay, straw, and roots grown on the farm are raw material suitable to be converted into beef and manure. Where the general system of the farm is an exhaustive one, that is, the crops are freely sold off, a considerable amount of feeding stuffs, the residue from which will act restoratively as mannre, are needed to maintain the the fertility of the farm. Where a less exhaustive method of cropping is adopted, a smaller quantity of re-storative manure is required; in fact a farm can maintain its fertility with little help. The farmer therefore considers whether it will pay him best to maintain his animals mainly on the raw material the farm provides, keepfattening them out, with a short period of healthy feeding, or whether he will rely largely on purchased con-centrated foods. In the one case he keeps his animals as stores in good going condition, in the other he feeds them at high pressure, giving much concentrated food throughout their lives. There can be many modifications between these limits, and it is for the farmer to decide, in accordance with circumstances, what conrse he will pursue. Often the relative value of store stock and fat stock will bnt this is by no means general. The pensatory equivalent in return for the outlay. It is surprising what large quantities of rich food C. may be educated to eat, provided the increase is very gradually made; but the persecutage utilised by the animal does; the feeding powers, and the quality not increase in sufficient ratio to make it profitable. It is certainly a mistake to increase the quantity of a mistake to increase the quantity of a trich cake, such as linseed, beyond will grow well are generall. The weighted aid to the ordinary purchaser, but when knowing the weight. he still has to recognise the growing capabilities, of the neat which will result. It is make it profitable. It is certainly a mistake to increase the quantity of a lifecult to explain on paper the indications of growth, but animals that it is such increase as is made should the frame, with relatively the same

to short limbs of the boy who will hest known species in Britain. make a short man. But heyond that, the skin and hair as results of hreed. . ing and selection indicate thriving or lack of power to thrive; in the thrifty animal the skin is loose on the ribs when gripped by the fingers, readily when gripped by the linguist, reading lifting; moreover, when the lifted portion is rubbed hetween the tips of the thumh and finger it has a soft unctuous feel. A skin of this sort, as a rule, carries a nice soft hair, plentiful and not harsh A good thriving animal has a big heart gith, that is the measurement round the hold. the measurement round the hody hehind the shoulders is hig, the ribs are well sprung, the hinder quarter and buttocks, that is the parts below the tail to the hocks. The top line and the helly line should he parallel, and from the setting on of the neck the fore part of the carcase should be well square with the hind quarter, giving the impression of a long deep parallelogram. The fore part of the animal carries the least valuable meat, but heasts poorly developed in front rarely make good beefers. No matter respects, man is that appears the some defect, practically always has a deficiency, although perhaps the observer may not have experience enough to recognise wherein the fault lies. Milking stock need not have the heavy fore quarters of the best making animal, as a matter of fact, the strictly milking hreeds are light in the fore quarters and full in the hind, gradually deepening from from to rear, thus providing ample room for digestion and for milk making: specially deep form from to rear, thus providing ample room for digestion and for milk making: specially deep form from to rear, thus providing ample room for digestion and for milk making: specially deep form from to rear, thus providing ample room for digestion and for milk making: suggesting a wedge in shape. Looked the Erates Islands, and C. unwill-at from behind over the back, the milking cow runs fine over the milking cow runs fine over the withers or shoulders, gradually widening, so as to show great width over the hipps, showing another wedge shape. These two are described as the double warder and form from to rear, and consultation for fact, and the first Punic War, made contains fine descriptive passages.

Catulus, Gaius Lutetius, a Roman transfer of feeling, and for felling, and for felling, and for such as the sinest elegies. His spic narrative of the marriage of Peleus and Thetis contains fine descriptive passages.

Catulus, Gaius Lutetius, a Roman transfer of feeling, and for soll weindly-imaginative Altis, are two of the marriage of Peleus and Thetis fone descriptive passages.

Catulus, Gaius Lutetius, a Roman transfer of feeling, and for soll weindly-imaginative Altis, are two of the marriage of Peleus and Thetis fone of the marriage of Peleus and Thetis fone of the marriage of Peleus and Thetis function of the marr

paring the sale price in markets.

References.—Low's Animals in both a poet and orator.

Domestication. Culler's Book of Cattle,
Sinclair's Cattle Cyclopedia of AgriB.C.), son of the preceding, shared his culture. Publications by the several father's hatred of Marius. He was Herd-book Societies. Wallace's Live made consul with Marcus Aurelius Lovider of Cattle Publish.

appearance of growth that a how who, of its memhers are cultivated in Eng-will make a big man shows, as opposed—lish greenhouses. C. labiata is the

Cattolica, a tn. in the prov. of Girgenti, Sicily, 14 m. N.W. of Girgenti. It has sulphur works and salt mines. Pop. 8000.

Catullus, Caius Valerius (87-54!

B.c.), a Roman lyric poet, was admitted as a youth to the hest society at Rome, which at that time included Cicero, Cornelius Nepos, Cinna the poet, and Hortensius. In 56 B.c., on his way home from Bithyuia, he visited his hrother's grave near Troy—an event to which he allndes in his poems. He played no part in public life, but passed his time between his villas on the Lake of Como and at from the shoulder back to the tail Tihur (Tivoli). As the reader would should be full, as should be the round gather from many of his verses, which seem struck out in a white heat of party furor, he was filled with a violent dislike of Cæsar, who, nevertheless, showed the poet every courtesy. The Lesbia who inspired most of his splendid passionate love poetry is thought to have been the sister of the notorious P. Clodius Pulcher. As a poet, C., 116 of whose poems are still extant, is remarkable for his mastery of the Latin language, which he enwhether from the side, front, or rear, dows with the sweetness, flexibility, the beast should meet you well. An and melody of Greek: for his heautiful animal that does not satisfy one in all ; imitations of many Greek metres; for respects, that is, that appears to have his sympathetic expression of every some defect, practically always has phase of feeling, and for his consum-

the hips, showing another wears general, and consul with Marius, Marius, Asshape. These two are described as E.C. The following year both generals giving the double wedge which a succeeded in defeating the Cimbri, but milking cow should possess. But a C. was ignored. This led to resentment to he a thorough indge of C. must be frequently among them, and C. joined Sulla in the civil war. He was amongst the proscribed handling, regarding points, and committed suicide. He was a very collumed man, being

Stock of Great Britain.

Cattleya, a genns of Archidacea, the species of which grow wild in tropical America. It is noted for the disputs with Lepidus, Pompey, and tropical America. It is noted for the large and beantiful flowers and some ardent patriot.

Catumbella, a river of W. Africa, rising in the N. of Benguela and entering the Atlantic 14 m. N.E. of the village of Benguela. The whole district is unhealthy, but the village of Catumbella, at the mouth of the river, being less so than Benguela, is rapidly superseding the latter.

Caub, or Kaub, a tn. in the Prussian prov. of Hesse-Nassau, on the r. b. of the Rhine, 30 m. W.N.W. of Wies-baden by rail. It has slate quarries. Blücher crossed the Rhine near C. in

January 1814. Pop. 2279.

Cauca, a riv. of Colombia, S. America, rising in the Andes and flowing 600 m. N. to join the Magdalena near Tacaloa. Its valley is fertile, healthy, and very beautiful, and is rich in minerals and forest trees.

Caucalis, a genus of Umbellifere, consists of herbs with multiplied leaves and white flowers, and is found in S. Africa and northern hemisphere. In Britain the species are called burparsley or hedge-parsley, and both C. dancoides and C. latifolia are found on chalky soils in corn-fields

Caucasus is the name of the great mountain range extending for some 750 m. from the peninsula of Taman on the Black Sca to that of Apsheron on the Caspian. The breadth at the widest is some 150 m. From the luxuriant plateau of grasses and forests to the N., the mountains rise in a succession of terraces, the parallel chains being divided by high plains cut up by narrow fissures of great depth. The southern slopes towards Georgia present magnificent scenery; towards Kur they are much steeper, and often sheer precipiess. From the central ridge, where the perpetual snow-line is 10,500 ft. high. six peaks are thrown up with an elevation of over 16,000 ft. Mt. Elburz reaches an altitude of 18,540 ft., and

In splice of the absence of volcanoes, there are many signs of volcanic action in past ages. To E. and W. are thermal springs. Most of the streams of the C. unite with one of the four chief rivers, the Kuban and the Rion, flowing to the Black Sea, and the Terek and the Kur, flowing to the Caspian. The Kur and Rion are S., the other two N. of the mountains. Of the earnivorous animals the most important are wolves, lynxes, panthers, and jackals, whilst wild boars and aurochs (Bos urus) are still found. Forests cover 56 per cent. of the C. area. The flora is characterised by the plenitude of arborescent growths, the variety of aquatic plants, and the pre- Turkoman affinities.

ponderance of pines. There are many vine cultivation, the annual yield measured in wine being 30,000,000 gallons. Large crops of rye and wheat in Northern Caucasia and of maize, rice, and tobacco in Transcaucasia are harvested each year. Mulberry trees for the silk industry, melons, apricots, peaches, and nuts are also grown. Ten million tons of crude mineral oil (naphtha) is the annual output from the wells of Baku, but copper ore, manganese, salt, and a poor quality of coal are also mined. The chief exports, whose annual value is £10,000,000, are thus petroleum, silk, corn, and manganese. Through the deep fissure of Dariel Gorge the Russians with great diffi-culty have constructed a military road, which rises to 8000 ft. above sea-level. The main railway from Russia has Its terminus in Vladikav-Russia has no cerminus in Viadikav. kaz, whilst another line connects Baku, via Tiflis, with Poti and Batoum. N. and S. of the central chain of C. are the provinces of Ciscaucasia and Transcaucasia. Vladikavkaz and Tiflis, the chief towns of the two provinces are connected by the two provinces, are connected by the military road. In 1897 the census gave the rapidly increasing pop. of Caucasia as 9,291,090. Ethnologically it consists of very various races. Though certain anthropologists employ the term Caucasian to Indicate the white, as opposed to the yellow or Mongolian peoples of Caucasia, they recognise that the groups of white nen are separated alike by distinctions of race and language. More than half the pop. Is composed of foreigners, the chief of whom are Tartars (Kalmuks, Turkomans, etc.), Semitic peoples (Jews and Arabs), Iranians peoples (Jews and Arabs), Iranians (Kurds, Persians, and Arminians), and Europeans (Greeks, Germans, and Slave). The Caucasians fall into four groups, in each of which considerable allinity prevails. They are:

1. The Southern or Kartvefi division including Georgians, Imeritians, Mingrelians, Laz, and Gurians. 2. The Eastern division of Tehetchens and Losephians. 3. The Obserts of Control Lesghians. 3. The Ossetes of Central Caucasia, an Aryan race who call themselves Irun. 4. The Western division, comprising the Kabards, Abkasians, and the Cicassian or Techerkess race. In the Kartveli and Eastern stocks combined there are five times as many people as in the remaining two groups. All the languages are harsh. Many are absolutely peculiar to the region, and their origin is still a moot point. Thus some ethnologists connect the Georgians with the biblical Hittites: others see in their tongue Aryan or As regards

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Tartars, and Iranians are Mussulmans: the Armenians are Christians of the Gregorian, the Russians and Georgians of the Orthodox Greek Church. A few belong to Nonconformist denomina-Generally speaking, the Cancasians are hospitable, snperstitions, and revengeful. Their respect for property is still very small. Placed like a buffer hetween Europe and like a buffer hetween Europe and Asia, they have been obliged all through history to fight hard for their independence. This was at last hroken in 1859 by the capture of the Lesghian leader and prophet, Shamyl. In 1870 Russia finally succeeded in establishing her rule throughout Cancasia. Yet the inhabitants, in spite of the Russian governments, have managed to retain their tribal customs and social organisation.

Cauchy. Augustin Louis. Baron (1789-1857), a famous French mathematician, born at Paris. Received in-struction first from his father, and was afterwards educated at the Ecole des Ponts et Chausses (1807). Began his career as an engineer, hut took np the study of mathematics soon afterwards, and was appointed to the chair of mathematical physics at the university of Turin (1831). Was loyal to the deposed king, Charles X., who made him tutor to his grandson (1833), and then created him baron. C. travelled about with his young pupil, the Duke of Bordeaux, and re-turned in 1838, finally accepting a post at the Ecole Polytechnique. He wrote many articles on mathematics and physics. C. is renowned for his memoir on wave-propagation, for which he received the Grand Prix of the Institute in 1816.

Caucus is a word whose derivation is still a moot point. Ahout 1725 it appeared in Boston as the name of a political club. In America it is still restricted to a meeting of party managers who choose the candidates to he proposed at the forthcoming election or to select delegates for a nominating convention. In England the term is applied in a derogatory sense to such a rigorous system of party organisation as Mr. Joseph Chamherlain introduced at the foundation of the Birmingham Liberal Association in 1878, when it hecame almost a principle that voters must vote with their party. Cauda-Galli Grit, a term applied in

N. American geology to the lowest subdivision of the Devonian system. The name (literally 'cock's tail ') is derived from a common fossil of this name, with a feathery form, and sup-posed to be a seaweed. See Corni-FEROUS PERIOD. See CORNI-

Caudan, com., dept. of Morhihan.

religion in Cancasia, the Caucasians, | France, 5 m. N. by E. of Lorient. It has manufs, of bricks and tiles. Pop. 9650.

Caudata, or Urodela, a applied to an order of An name Amphibia which has for its distinguishing characteristics that the species are scale-less, have a well-developed tail which persists throughout life, and usually two pairs of limbs. There are about 100 species, and they occur all over the temperate north hemisphere. Newts, salamanders, and mnd-eels are representative of the order.

Caudebec, the name of two places the dept. of Seine-Inférieure, France. C.-en-Caux, on the Scine, is famous for its 15th century church; рор. (1906) 2141. C. - les - Elbeuf mannfactures cloth; pop. 9700.

Cauderan, a suburh of Bordeaux, France; has chemical and chocolate

france; has chemical and chocolate manufactures. Pop. 11,500.
Caudine Forks (Furculæ Caudinæ), a pass in ancient Samnium, near the town of Caudium, formed by two narrow wooded gorges, hetween which lay a plain, grassy and well watered, but entirely enclosed by mountains (Livy, ix.). Here the Romans suffered a crushing defeat by the Samnites in the Second Samnite the Samnites in the Second Samnite War (321 B.C.).

Caudium, an ancient tn. in Samnium, Italy, on the road from Beneventum to Capna, later the Applan Way. It was prohably once of great importance as the capital of the Candini, but at the period of its first mention in history, at the time of the Samnite wars, was very small and nnimportant.

Caudry, a tn., 8 m. S.E. of Cambrai in the dept of Nord, France; has brewerics and distilleries and mann-

factures textiles. Pop. 11.000. Caul (from Old Eng. calle, a cap), a close-fitting cap of network worn by women in the 15th and 16th cen-turies; hence a portion of the amnion or thin membrane covering the fœtus which sometimes remains round the head of a child after birth. Many superstitions are connected with this retention of the C. To be born with a C. (Byron was an example) was considered lucky, and still is in out-of-the-way places. It was considered a protection against drowning either to the original owner or to any future pur-chaser. A C. used to fetch large sums, from £10 to £30 sometimes, among scafaring men.

Caulaincourt. Armand de (1772-1827), a French general, who served under Napoleon. He suffered the vicissitudes of fortune in his earlier career, for he was degraded from the rank of captain in the army and had to serve as a private. He was afterwards reinstated throngh the interarrest of the Due d'Enghien, but he stoutly denied it. He tried to dis-suade Napoleon from embarking on the Russian war; he accompanied him to Poland, but was recalled to Paris. He took an active part in diplomatic service during Napoleon's regime, and was appointed Minister of Foreign Affairs, but retired from service after the second restoration.

Caulerpites, a fossil genus of sipbo-neus green alga which is scattered through nearly all the marine forma-Recent species of Caulerpa

lave been found in warm southern climates and in the Mediterranean.
Caulfield, tn. in the co. of Bourke, Victoria, Australia, 6 m. S.E. of Melbourne by rail. Pop. 10,000.

Cauliflower, a variety of Brassica oleracea, or cabbage, and is known botanically as Botrytis cauliflora. Like the broccoli, Bolrutis aspara-goides, it is formed of a fleshy inflorescence modified into a flattened hea ' it differs froi hiter and ave been less imported from Cyprus in the 16th century, but it is now naturalised in Britain, growing in a rich soil under more careful conditions than cabbage. When the head begins to show, the large surrounding leaves are drawn up and tied around it to make it of a very white appearance. There are several varieties of C., but they differ negligibly in quality, early dwarf Erfurt being about the best.

Caulking, in wood shipbuilding, the process of driving 'oakum,' or untwisted rope, into the seams of the outside and deck planks of a ship, aud finally coating the oakum-filled seam with tar or resin, in order to render the joints of the planking

watertight.

Caulonia, a modern vil. in Calabria, Italy, 45 m. N.E. of Reggio on or near the site of the ancient C. or Aulonia, a colony of the Acheans. The exact site is unknown and depends upon the identification of the R. Sagras, N. of which, according Pliny, was C. to Strabo and

Caulopteris, the name applied to the fossil stems of some tree-ferns which bear spiral markings like those of the leaf-scars of recent species. They occur in British coal formations,

and C. anglica is a common species.

Caunt, Benjamin (c. 1815-61), an
English pugilist of Hucknall-Torkard, Notting hamshire, son of a tenant of Lord Byron. In 1835 he was defeated by 'Bendigo' (W. Thompson). In elaborate cssays. Matthew Arnold 1837 he attracted attention as a frequently used the C. form of essay, and the structure of the structure o fighter by defeating W. Butler. His and it has become a regular feature style was never very scientific, but of many periodicals and uewspapers.

vention of Lazare Hoche. C. was he was resolute, powerful, and couraceused of being instrumental in the ageous; over 6 ft. in height; 14 st. arrest of the Due d'Enghien, but he 7 lbs. in weight. He became champion of England in 1838, after beating Bendigo in seventy-five rounds. 1843 he became propriotor of the 'Coach and Horses' public-house. St. Martin's Lane, London. See Fistiana, 1868; Modern Boxing, by Pendragon, 1879; Dict. of Nat. Biog., ix.

Caunus, an ancient eity on the S. coast of Caria, in Asia Minor, opposite the island of Rhodes, to which C. belonged for a long period. It was the birthplace of Protogenes, the painter, a contemporary of Apelles, and was noted for its fruit.

Cauquenes, a tn. in Chile, S. America, cap, of the prov. of Maule, 75 m. N.E. of La Concepcion. Wheat and vines are grown largely in the neighbourhood. Pop. 8500.

Caura, a river of Venezuela, rising in the sierras of the S. and flowing N.N.W. to the Orinoco. The territory of C. stretches on either side (22,485 sq. m.), with large forests of tonka beans.

Caus, or Caux, Solomon (1576-1626), French engineer, born at Dieppe; appointed mathematical tutor to the Prince of Wales in 1612. He entered the service of the elector palatine in 1613, and laid out the gardens at Heidolberg Castle. He returned to France and became ongineer and architect to the king in 1623. His books include Institution Harmonique (1615) and Raisons des Forces Mouantes avec Diverses Machines (1615), in which he describes the process of machine movement propelled by steam with so much resemblance to that of Delia Porta that the invention of the steam engine has been ascribed to him by some writers.

Cause Célèbre, a term used cause Celeore, a term used to signify any lawsuit of great public interest or importance apart altogether from any question of legal principle, e.g. the Palmer poisoning case, the Tiehborne claimant case, the Hansard libel prosecution, the Dreyfus case, tho trial of Madame de Steinheil. The expression Cs. Cs., caccording to Wheston was the title de Steinheil. The expression Cs. Cs., according to Wharton, was the title of a series of reports collected by Gayot do Pitival of decisions of interest in French courts in the 17th

and 18th centuries.

Causerie (Fr.), a short, informal article or lecture on any subject of

Causses (Lat. calx, lime), the name on a cup of tea, the tea surface cnts of the plateaux sloping westward in the C. surface in a C. curve seen from the Cévennes in the depts. of as a bright curve on the tea culminat-Lozère, Aveyron, Gard, and Hérault. ing at the bright focal point at the They are of limestone formation, dry, cusp. sterile, and cut hy numerous streams, the Tarn, Jonte, and Dourbie among others, into deep cañons which divide the main plateau into four main and several smaller C. The chief are the C. of Sauveterre, Méjan (4200 ft. at its highest point), Noir, and Larzac Surface pits, underground streams, and stalactite caves are a great feature of the district. Owing to the sterility of the soil and the rigours of strument or process for heating or the climate there are few industries; burning the tissues of the body. the chief is the rearing of sheep from provides counter irritation over an whose milk Roquefort cheeses are inflamed part, destroys diseased or made. On the southern border of the dead tissue, or, in some case where a Causse Noir is 'the dolomite city,' white heat is applied, is useful for per-Montpellicr-le-Vieux

corroding or harming up trissies. This they generally do by their affinity to water, a substance which is necessary to the tissues, and them varies according to the nature so its extraction causes death. most commonly used is silver nitrate or lunar caustic, which is employed of destroy warts, cancerous growths, poisons, etc., and leaves the surface black after operation. C. potash and C. soda are the hydroxides of potas-

Caustics are curves or surfaces formed by the reflection or refraction of light at the surface of a reflecting or refracting medium. They are produced by spherical aherration. When a narrow pencil of rays of light is incident at the centre of a lens or mirror, all the rays are brought to one focus, but if the pencil is broad this is not the case. the rays from the periphery or margin come to a focus at a different point on the axis from those from the centre. Thus, if we take two rays arriving at points in the lens at different distances from the centre, after refraction they will cross one before crossing the axis. At this point of intersection there will be increased illumination, and the surface formed by the intersections of the whole series of rays is a surface of increased illumination known as a C. surface, and converging at a point on the axis known as the focus. If a section of this surface is taken through the axis in any plane it will take the form of a cuspoidal curve reflecting surface and the curve is sued by the third party or creditor then more easily seen and generally has a right to obtain relief against observed. Thus, when light is shining the principal dehtor. Co-cautioners,

cusp.
Cauterets is a fashionable wateringplace, 3250 ft. above sea-level, in the beautiful valley of the Laverdan in the dept. of Hantes-Pyrénées, Southwestern France. Its twenty-four thermal sulphurous springs draw C. is popular as a many invalids. centre for climhers on the Pyrenees. Pop. (1906) 1030.

Cautery, the name given to an in-Ιt forming operations in parts which are Caustics, in chemistry, are sub- either difficult to get at or vascular in stances which have the power of nature. Its application near a bleed-corroding or harming up living ing artery is very efficient to check ing artery is very efficient to check the flow of blood. There are various forms of C., and the heat applied in The of the operation to be performed. The actual C. is an instrument with a

form called Paquelin's C. has a hollow head kept hot by means of a contained benzol lamp or the passage sium and sodium respectively, while contained benzol lamp or the passage C. lime is the unslaked oxide of of hot vapour. Galvano-C. contains calcium (Cal). a wire or wires along which an electric current passes, so that the heat emitted can he varied by altering the strength of the current. Of late years it has been found that C. by concentrated heat rays from the sun possesses many advantages over the other and earlier methods.

Cautin, a coastal prov. of Southern Chile, producing wheat, cattle, lumber, tan-bark, and fruit. It is traversed by the Rio Tolten, forming its sonthern boundary, and the C. or Rio Imperial, which rises in the Andes and flows 180 m. westwards to the Pacific. Capital, Temuco on the Rio C. Area

5832 sq. m. Pop. (1895) 78,221. Caution, or Cautionry, in Scots law, means an obligation by which one person becomes pledged as security or surety for another, either to do a certain act or pay a sum of money, or as guarantor for the good conduct or fidelity of the other. Such obligations must always be in writing, otherwise they are unenforceable. As in the English law of suretyship so in the Scots law respecting a C. the cautioner called a C. curre with its point at the is under no greater liability than the focus. A similar effect is produced principal debtor or person for whom when a broad pencil of light meets a he answers. The cautioner where

bound by the same writing, are of a French general and an Irish lady, jointly bound to the ereditor, and no one co-cautioner can insist on the obligation or liability being divided pro rata among all, though each has a right of contribution against the others afterwards. The cautioner, where bound as full debtor for the debtor, or jointly soverally with the latter, may be sued for the whole debt, and no longer, in the ahsence of any stipulation to the contrary, has any hencit of discussion, i.e. right to call upon the creditor to demand payment from the principal debtor besides registering the debt or charge. The cautioner is exempt from any further liability where the principal debt comes to an end or where the creditor alters the position of the principal debtor without obtaining the cautioner's consent. as e.g. by giving him time to pay or discharging him altogether.

Cautley, Sir Proby Thomas (1802-71), English soldier and engineer, born in Suffoik. He served for some years in the Bengal Cavalry until he undertook the reconstruction of the Doab Canal. His great work was the construction of the Ganges Canal, a masterpiece of engineering, opened in 1854.

Cauvery, a riv. of Southern India, which rises in the Western Ghats of Coorg, traverses the plain of Mysore, and flows through two mouths into the Bay of Bengal. Its course, which is never navigable, is interrupted by twelve anieuts or dams for irrigation. The chief anicut, which crosses the Coleroon, is 2250 ft. long. Electric power for Mysore is produced from the beautiful C. Falls. Near these are the islands of Sivasmudram and Seringapatam, sacred to every devout Hindu. The C. waters a very fertile country of over 1,000,000 acres.

Caux (so called from the chalk soil) Napoleon and retired into the ranks is the name of an old dist. corresponding to that of the modern Havre, Dieppe, and Yvetot. It is in Normandy, facing the Channel. Itspeople

live by pasturage and agriculture. Cava dei Tirreni, a tn. and episcopal see of Campania, Italy, 6 m. N.V. of Salerno by rail. It is situated 980 ft. above sca-level in a fertile and well-

abbey of La Trinità della Cava, founded by St. Alferius in 1025 and possessing valuable archives, now the property of the nation of commune (1901) 23.415. Pop.

Cavagnari, Sir Pierre Louis Napoleon (1841-79), British soldier and military administrator, the son

born at Stenay, Franco. He was educated at Christ's Hospital, London, and was naturalised as a British subject in 1857. He served for twenty-one years in India in both military and political hranches of service, hut was murdered at Kabul by the Ameer while there on a political mission.

Cavaignac, Jacques Marie Eugène Godefroi (1853-1905), a French politician, son of Louis Eugène C. early declared himself an ardent republican. Hc served in the Franco-Prussian War in 1870; became re-publican deputy for Saint-Calais (Sarthe) in 1882; served as Under-Secretary of War (1885) and as Minister of Marine and of the Colonies under President Loubet (1892). Ho was Minister of War in the Brisson cabinet, 1898, when he played a prominent part in the Dreyfus case. He minent part in the Dreynis case. He discovered the document, which ineriminated Dreyfus, to be a forgery, but resigned his position rather than consent to a new trial of Dreyfus, in whose guilt he was a firm believer. His book on the Formation de la Prusse contemporarie dealt with the events of 1806.13 events of 1806-13.

Cavaignac, Louis Eugène (1802-57), French soldier and politician, born in Entered the army as an engineer in 1824; sorved in Morea and afterwards in Algeria where ho won great distinction. In 1848 the provisional government made him governor general of Algeria, but the troubles of the revolutionaries in Paris led to his recall as Minister of He was appointed dietator to quell the insurgents, and drove them with great bloodshed to the barricades. In the same year he was made President of the Council. He was defeated as a candidate for the presidency of the republic by Louis

> -hieh led to his coup d'état of he retired into is death.

Life by Deschamps (1870).

Cavaillen, a tn. on the Durance, in the dept. of Vaueluse, South eastern France. It has Roman and mediceval remains, including a cathedral, and is a commercial centre for melons and early vegetables, and for the silk and preserved fruits industries. (1906) 5760.

Cavalcanti, Bartolommeo (1503-62), a Florentine noble and orator, who led a revolt against the Medicl, and was afterwards employed by Pope Paul III.

Cavalcanti, Guido (c. 1250-1300), an Italian poet and philosopher. father was one of those whom Dante mentions in the Inferno as condemned to torture among the Epienreans and Atheists, but Guido himself was a friend of the great poet,
who dedicated his Vita Nuora to
him. By his marriage with Beatrice,
daughter of Farinata Uberti, C. became head of the Ghibelline factor of the leaders in Florence, and when the leaders of both Guelphs and Ghibellines were driven out by the people of Florence, he was banished to Sarzana and returned to Florence only to die. He wrote in prose on philosophy and oratory, but his most famous work is the Canzone d'Amore. He wrote many ballads, songs, and pastorals of great beauty and sweetness, but there is a tendency in many of his poems towards too great an admixture of metaphysical philosophy horrowed metaphysical philosophy horrowed from Plato and Aristotle, which, while adding to the depth, spoils the swetness. The best edition of his works is Ercole's Guido Cavalcanti e le sue Rime (Alilan, 1885). See also D. G. Rossettl's rendering of several of his poems in The Eorly Italian Poets (1861), reprinted in 1892 as Dante and his Circle. Dante and his Circle.

(1820-97), Italian author and arteritie, born at Legnano. In 1846 he went to Germany, where he met J. A. Crowe (1825-96) (q.v.) and returned to Italy with him. In 1848 he was banished for his share in the Italian revolution; he accompanied Crowe to London and eollaborated with him in Early Flemish Pointers (1857). In 1858 he returned to Italy and published his History of Pointing in Italy (1864-71), and the Lives of Titian (1876) and Parked (1882) in all of which he Raphael (1883), in all of which he was assisted by Crowe. In 1861 he became secretary to Giovanni Morelli (1816-91), the art critic and patriot, then engaged as president of a commission appointed to bring all works of art, which could be considered public property, under government control. In 1878 he was appointed elief of the National Art Gallery at Rome. Their great History of Painting was under

Giovanni

Battista

Cavalcaselle,

Cavaller (Low Lat. caballus, horse). originally a horseman, horse-soldier, hence knight, gallant. In English given to the adberents of the Stuarts in the contest between Charles I. and parliament, their opponents heing Roundheads. At first a derisive nick-land recently some valuable paintings name (hence the meaning of the adj., rude. contemptuous, e.g. 'cavalier

revision by Crowe until his death in 1896, when it was continued by S. A.

cuted Protestants of Cévennes re-belled against Louis XIV., C. became one of their first leaders, and several times defeated the royal generals, obtaining excellent terms from the Marquis de Villars in 1704. He fought at Almanza in 1707, and later entered the English service, where he became

a general. Cavalieri. Buonaventura (1598-1647), an Italian mathematician, devoted his life more especially to the study of geometry. From his youth upward he was the victim of a cruel disease, which his work helped him to forget. In his Geometria indivisibilium continuorum novā quādam

ratione promote his celebrated which has beer

termination of volumes, and has contributed not a little to the development of the integral calculus. He applied his method with equal success to areas and solids. According to his conception all space may be regarded as made up of an infinite number of parts, which represent the limit of decomposition which the mind can imagine anything to undergo. There are further treatises of his on trigonometry, logarithms,

and conje sections.

Cavalli, Francesco (1600-76), Italian musical composer, born at Crema, his real name being Pier Francesco Caletti-Bruni. He took the name of C. from his patron, a nobleman at Venice, where he became a singer at St. Mark's in 1617, rising eventually to be maestro di cappella.' He wrote numerous popular operas, which are dramatic and bumorous, though often

exaggerated.

Cavalli, Giovanni (1809-79), Italian artillerist, born at Turin, and studied weden. In 1846 and his experi-

etion of breech-

Strong (d. 1904) and Langton Doug-las; vols. I. and II. appearing in 1903, provements in the practicalility and and vol. iii. in 1909. capability of those weapons.

Cavallini, Pietro (c. 1279-1364), an

Italian painter, was a pupil of Giotto at Rome. Like many of his contemhistory the name is familiar as that poraries he was also a master of

name (nence the meaning of "cavalier" Rome, have come to light. It is baid treatment '), it was later used as a he helped his master in the mosaic title of honour (cf. French chevalier).

Cavallo, Tiberius (1749-1809), an of his at the church of Santa Cecilia, in

Italian electrician, settled in England go, but their employment had been about 1771, and remained there for various. The earliest type of horse of the rest of his life. He invented which we have any evidence was inchemical apparatus and many excapable of carrying a well armed man tremely sensitive and accurate inof the period. In the armies of Egypt struments for measuring the force of electrical corrent. In his Treatise on the Nature and Properties of Air he discussed Dr. Priestley's recent discoveries, rejected the phlogiston hy-however, for the purpose of strategy. pothesis, and noted for the first time! It was necessary to know what the the nature of the influence of light and movements of the opposing forces air on plant life. His Treatise on were, and for this purpose mounted Electricity, 1777, proved him also to men were used. With the beginning Electricity, 1777, proved him also to men were used. With the beginning have been a natural philosopher of no of the age of chivalry, however, we mean order.

Cavallotti, Felice (1842-98), Italian politician, poct, and dramatist, horn at Milan. In 1860 he published a tract, Germania e Italia, against foreign rule, and joined the Garihaldian rule, and joined the Garihaldian forces, fighting with them again in 1866. In this year he hecame editor of the Gazzettino Rosa, and both there and in the Gazzetta di Milano wrote

numerons bittemonarchical

his policy bei and radical. and radical. In 1872 he entered parliament as deputy for Corteolona, and on the death of Bertani in 1886 became leader of the party of the Extreme Left, succeeding in greatly strengthening the party and increasing his own popularity. He was a violent adversary of Crispl, and was famous for the frequent leavestife and famous for the frequent lawsuits and duels in which he was involved. He was killed in a duel with Count Mar-cola, editor of the Gazetta di Venezia. cola, editor of the Gazeman. He wrote some beautiful lyric poetry. including Anticaptie (1879) and Il Libro dei Versi (1898); and among his dramas are Alcibiade, Messeni, and Cantico de' Cantici. His works in nine vols. were published at Milan in 1896.

Cavalry. In making a definition of the term C. it is very necessary to differentiate between C. and mounted infantry. The term is sometimes used as covering all sorts and descriptions ment. The history of C. can to begin only with the begin

the age of chivalry. It is, of obvious that the horse was used in common to both. The C. again armies previous to this, but it had triumphed, since their mobility gave armies previous to this, hut it had triumphed, since their mohility gave oot been used for the purpose of them a great advantage. Again, the mounting a number of men who by infinence of the religious wars of the sheer weight and impetus would attend it was essential that the C carry all hefore them. Horses had rated. It was essential that the C., been employed in warfare as far hack having charged the enemy, should in the history of warfare as we can not go too far either in pursuit or in

and Assyria we find the horse used. hnt only as a chariot pulling animal. Later we find a number of mounted men used in the army, mainly, again, find that a hattle resolves itself very largely into a matter of C. charges. The knights in armour, mounted on great chargers which were themselves at a later date clad in armour also, swept down upon the infantry and usually carried all hefore them. This usually earned all hefore them. This was practically the state of affairs during the 15th century, but the overthrow of the feudal C. had by then become largely a matter of time. At the battle of Stirling Bridge, at Courtral, and at Creey, the new tacties of the army of infantry had shown the ability of the bowmen and infantry to discover and correlators. infantry to disperse and overthrow C. The 'schiltronns' of Wallace and the stakes of the archers at Creey had overthrown the fendal C. Another example which can well be quoted here is Bannockburn, where the furious charge of the feudai C. of England was successfully countered by the tactics of Robert Bruce. Other tactics would have to be adopted by the C before they could again vaunt their superiority over the infantry. Other influences also were at this time at work. The introduction of gun-powder and the consequent use of fire-arms had led to many innovations in the art of war. The C. began to arm themselves with fire-arms in addition to the lance which they carried, and their greater speed and as covering all sorts and descriptions monnty gas to monte men used in the field, but the term C. is now held to include the term C. is now held to include the combined action of horse and man carries ont the purpose of the commander. It is to be noticed that mounted infantry, for example, use their horses only for the purpose of their horses only for the purpose of their horses only for the purpose of the overcome the new tactics of the obtaining greater celerity of movement. The history of C. can mobility gave them a great adwith fire-arms, and annon had become The C.

early years of the 18th century they and detailed communication. found insufficient employment, and are naturally an essential part of the during the Seven Years' War they army during the course of a battle. were found to be lacking in dash

Cavan, a market th. on a trib. of the and ignorant of manœuvring. Under Annalee, in the county of Cavan in Frederick the Great the Prussian C. Southern Ulster, Ireland. Most of the Frederick the Great the Prussian C. Southern Useer, Ireana. Answer of the reached again a high standard only county offices are in C., but a grammato decline at the end of the Seven mar school, founded by Charles I. Years' War. During the early stages (rebuilt in 1819), is the most confit the revolutionary wars C.

In the province practically non-existent. A ethic industry, but practically non-existent. A of mounted infantry were use these were mounted only for 1

potatoes and oats, vantages of mobility. Under Napoleon the Work of the C. was revived, and industry. Cootehill and Belturbet are the C. were used in combination the other towns, the Erne and the with the artillery. The mass of Woodford the other rivers, of iminantry to be charged were first of all portance. Pop. of county (1991) riddled by a heavy artillery fire, and 97,541, of which 80 per cent are then the C., which had been massed within easy striking distance, were launched against it, to continue and finish the work made easy by the continue and applied in music to a simple melody. finish the work made easy by the disorder and confusion created by the fire of the artillery. During the campaigns of the 19th century the campaigns of the the whole played an important part. Following immediately on the Napoleonic wars they were practically dishanded, and London the functions of journalist. during the latter part of the century the question of substituting to a large degree mounted infantry has been mooted, and the plan has found strong advocates. For it is argued the conditions of warfare have changed in such a degree that the use of C. in the sense that it was used by Napoleon is no longer possible or necessary. The only use of mounted men is for purposes of mobility, and a large number of supernumerary C. are only use of mounted filed is for took his M.A. degree at St. John's number of supernumerary C. are always necessary at the beginning of living was Islington (1662-59), but a campaign. It is obvious that it imneh easier to recruit efficient riff. men for a mounted infantry than

search of plunder. The hattle of is to recruit trained C. men. It is, Lewes may be quoted as an example; however, maintained now by a very where the C., having overthrown the; however, maintained now by a very where the C., having overthrown the large number of authorities that we enemy, lost the day owing to too prolonged a pursuit. The mercenary is superiority to feudal levies, hut they is concentrated fire of shrapnel and superiority to feudal levies, hut they is quiek-firing guns will make it possible had also shown that they were not to the depended upon in the matter artillery and penetrate the masses of a quiek return to the hattlefield. The C. of the Protestants in the finantry confused by the artillery Thirty Years' War, however, showed that, actuated by the highest motives in pinto four squadrons, each of which of patriotism, they could be used with squadrons has two troops, and the that, actuated by the highest motives inp into four squadrons, each of which of patriotism, they could be used with squadrons has two troops, and the exceedingly great advantage. The C. forms usually about one-sixth of Ironsides of Cromwell showed their the army in the field. Each brigade fearlessness and couragein the charges of C. is supported by a hattery of against the pikemen and musketeers. They had certain advantages over the C. of modern times, but on the hody of the troops, to complete a whole their work was as dangerous hattle by charging the enemy, or to complete a themselves to be the most useful done by a body of C. moving about arm'that ageneral had. But again one to two days' march ahead of the C. declined; during the wars of the main body, but keeping no constant C. declined; during the wars of the main body, but keeping up constant

it and cold, and the

having no second nor a da capo part. It is also sometimes used of any kind

London the functions of journalist and printer. In 1731 he began to publish the Gentleman's Magazine, in which parliamentary dehates were for the first time reported at some length. C. died with his hand 'gently pressing' Samuel Johnson's. The latter had become his parliamentary reporter in 1740, and afterwards his friend.

Cave, William (1637-1713), divine, n of

> 1 1725 . The

history were once standard works.

Cave Animals, a term which is applied equally to animals whose remains have been found in a fossil state in caves and to living creatures which have adapted themselves to an existence in the dark and quiet shelter discovered by their ancestors. They are often distinguished from their kindred by the specific term spelaus (Lat. spelæum, a cave), e.g. the fossil hyæna and tiger are known as Huæna spelaus and Felis spelaus respectively, while the living blindfish is Amblyopsis spelæus. Their frequent lack of vision has also ohtained for many of them, as for deepdwellers, the

bλός, blind), e.g. of blind fishes. The chief characteristics of animals of this type are their reduced or absent eyes and consequent well-developed sense-organs, such as antennæ and fcelers, lack of colour, and their predaceous carnivorous habits occasioned by lack of vegetable matter in the darkened home. Among the gastropod molluses several species of snails have been found in Austrian caves which have developed blindness as the result of their mode of life. Blind cave-dwellers are represented also in the Crustacea and Arachnida by soveral species, notably by Cambarus stygius and Anthrobia mammouthia respectively. In the orthopterous insects a genus of small cockroaches of a peculiar nature has been roaches of a peculiar nature has been discovered in caves of the Philippine Islands; the females are devoid of sight and of all power of flight. The Carabida and Silphida are well-known families of coleopterous insects which include several cavedwellers, usually sightless, e.g. in the carabida genus. Amothialmus, found carabid genus Anophilalmus found in Europe and America, and the American genus of Sllphidæ, Adelops. Rising higher in the animal world we come to the phylum Piscos, and here there are numcrous fishes which shun the light and prefer a cavern for a bome. The Amblyopsis, which occurs in the Mammeth Cave of Kentucky, is a colourless fish, about five inches in length, in which the eyes and optic nerve are imperfect; in the same family, i.e. Amblyopside, are found the Chologaster, which has normal sight, and Typhlichthys, a blind and colourless fish whose home is near the Missionium. the Mississippi. A blind salamander, 'ahits tho

twelve books he wrote on early church, the light the colourless creature turns black.

> Caveat, a formal notice or caution given by a party interested, to a court. judge, or public officer, against the performance of certain judicial or ministerial acts. In a more restricted sense a C. denotes (1) a caution entered in the Probate, Divorce, and Admiralty Division to stop the granting of probates of wills or letters of administration; (2) a notice given to the bishop by a party who disputes a particular right of presentation to prevent the Institution of a clerk to a henefice; and (3) a notice lodged at the patent office to prevent the registra. tion of any invention under the patent laws.

> Caveat Emptor (Lat., let the buyer be on his guard), a legal maxim which in the law relating to a contract for the sale of goods means that a purchaser inust take all reasonable precautions in buying from another, for as regards the quality of a thing sold in the general circumstances of the sale be will not be allowed afterwards to repudiate the sale because he hae not obtained all he wants. The Sale of Goods Act, 1893, however, has destroyed the maxim of some of lts force by implying in every contract of sale conditions that the goods sold shall correspond to their description, that they shall be reasonably fit for the purpose for which the buyer wanted them, provided he made that purpose known to the soller, that the bulk shall correspond to the sample, and that the soller has a right to sell the goods; with the result that on the breach of any such condition the huyer can rescind the contract.

Cavedone, Giacomo (1577-1660), an Italian painter, born at Sassuolo, near Modena; studied under the Caracel and Guido, and was much influenced by Titian, whose works he studied at Venico. Most of his work was done for churches in Bologna, and is in hoth oil and fresco. His colouring, design, and execution are all good. His hest pictures are: 'The Nativity,' 'Virgin and Child upon the Clouds,'
'The Holy Family,' and 'The Adoration of the Magi.'

Cavendish, the eurname of the

ducal House of Devonshire (q.v.).

Cavendish, Lord Frederick Charles (1836-82), second son of the seventh Duke of Devonshire. Ho married a niece of Mrs. W. E. Gladstonc. He was private secretary to Lord Gran-ville, 1859; elected M.P. for Barrowsouri, and in-Furness, 1865; was Gladstone's ibians are private secretary. 1872; financial secretary to the Treasury, 1880. In nutive of Carniola. Its eyes are completely hidden, and when exposed to

He landed at Duhlin on May 6; he passed the afternoon with Lord Speneer in Dublin Castle, and about six o'clock he walked with the Under-Secretary, Thomas Henry Burke Secretary, Thomas Henry Burke (q.v.), into Phœnix Park. They were there set on and hrutally murdered by a gang of assassins, belonging to the secret society of Invincibles, in front of the vice-regal lodge. The weapons used were amputating knives, specially imported for the purpose. James Carey, a member of the Duhlin corporation, turned informer, twenty persons were arraigned, and five were executed and others sentenced to penal servitude.

Carey sailed for S. Africa, hnt was
murdered on board by Patrick O'Donnell, who was hanged in 1883. The assassins did not know who Lord Frederick was, but they meant to murder Burke. The late secretary, Forster, had narrowly escaped assas-sination. The murder had far-reaching political consequences for Ireland. and 'Well has it been said that Ireland seems the sport of a destiny that is aimless.' (Morley, Life of Gladstone.) Lord Frederick is huried at Chatsworth, and a fine statue is erected to his memory at Barrow-in-Furness. Pigott's forged letter of C. S. Parnell condoned this murder.

Cavendish, George (1500-1562?), an English historical writer, was the eldest son of Thomas C., a clerk in the Exchequer. He married Margery Kemp, a nieee of Sir Thomas More, and hecame gentleman-usher to Cardinal Wolsey, being wholly devoted to his service through prosperity and disgrace. After Wolsey's death he wrote his patron's hiography, which was circulated in MS., and probably was made use of by Shakespeare in his portions of Henry VIII. In 1641 it was first printed as The Negotiations of Thomas IVolsey; the genuine text, however, did not appear till 1810, a hetter edition appearing in 1815. It is a valuable authentic record of the

period.

Cavendish, Henry (1731-1810), a natural philosopher, spent three years at Peterhouse, Cambridge. His distribution of to an eccentric conference of the confe

the possesdevoted his

whole life to chemical and physical research, and found time also to work at mathematics and to read papers hefore the Royal Society. Not only did be discover the extreme lightness of hydrogen—which led at once to balloon experimenting, etc.—but

land, Earl Spencer, not only as a before 1783 he had ascertained the most capable and thoroughly high-minded man, but as having framed a financial scheme for land-purchase. He landed at Duhlin on May 6; he the earth. Sir Humphry Davy speaks enthusiastically of the extreme aespencer in Dublin Castle, and about curaey of his work.

Cavendish, Margaret, Duchess of Newcastle (c. 1625-73), was the second wife of the Duke of Newcastle (1592-1676), and is best known as the writer of his life. Formerly she had been maid of honour to Henrietta Maria. Husband and wife were inordinately fond and proud of one another. Walpole deseribes her as a 'fertile pedant' with an 'unbounded passion for serihbling.' Her maids were expected always to be prepared to 'register her Grace's conceptions.' Her works are marred by diffuseness and illogical sequence of thought.

Cavendish, Thomas (1560-92), cirinded a ship in

nded a ship in expedition to the following nall ships from

Plymouth, in which he sailed round the world (1556-8) by way of the Magellan Straits, the Eastern Archipelago, and the Cape. During this voyage he discovered Port Desire, Patagonia, hurnt three Spanish cities, and captured Spanish treasure. He died at sea off Ascension, brokenhearted because his second expedition was not so excessful as the first

was not so successful as the first.

Cavendish, William, Duke of Newcastle (1592-1676), was educated at
St. John's College, Cambridge. James
I., pleased with his learning and
charm of manner, made him Viscount
Mansfield, and Charles I. appointed
him governor of his son, Charles, in
1638. C. had previously entertained
his sovereign at Welbeck, when Ben
Jonson, whom he patronised, composed the masque. When the Civil
War broke out he proved a stauneh
Royalist, and made a generous contribution of £10,000 to the King's
treasury. Collecting troops at his
own expense, he won Yorkshire for
his cause by the victory of Adwalton
Moor (1643). In that year he captured Hull, but in the following, after
the rout of Marston Moor, went
abroad, where he lived in straitened
circumstances till the Restoration,
when he returned to England. In
spilte of his splendid devotion, King
Charles II. restored to him only a
part of his septenes.

Caversham, a tn. in the Henley division of Oxfordshire, England, on R. Thames, opposite Reading. Pop.

6600.

Caves, or Caverns (Lat. carus, hollow), hollow places formed in the earth or in rock. They may be produced by the action of water or by

the destruction and displacement of the roof of the C. Is supported by strata through an earthquake or landslip. The regular beating of are of a pure dazzling white, but more waves upon the seashere wears away of the are coloured by some foreign the softer portion of the cliff until cavities are formed. Fingal's C., lit up artificially, the effect is oxidarine crosion. The sand and gravel, specimens of such C. are to be found and the proposition of the season France and Switzerland large caverns | have been formed under glaciers, owing to the shifting of the ice. C. are. however, more frequently formed by the chemical than by the mechanical action of water. Carbonie acid, which is present in most waters, derived elther from the air or from decaying organie matter in the soil, acts upoa mineral rock forming salts, which are carried away in solution, leaving cavities behind. Large subterranean cavines bennin. Language and channels have been formed in various districts by underground streams and rivers. A river that has left its course above ground cats its way through the earth, until it can finally empty itself into the sca. Whenever such a river, for some natural cause, has abandoned its subterranean watercourse, the channel it has occupied gradually dries up, and tortuous underground passages remain, linking together the C. previously made by the water. The holes through which the rivers have descended on their downward course below the earth are known The direction of the as sink-holes. eaverns and channels can frequently be ascertained above ground by examination of these entrance-holes. Fino specimens of such slnk-holes are found in Kentucky and Florida. found in Kentucky and Figure 2. The imertone districts calcareous deposits are left on the walls of subterranean C. This is due to a double three different species of mammals chemical process. Firstly, the carbinate of birds have been deduced and five of birds have been deduced consult Badin, Grotles

soluble bicarbonate. Who tion is left standing on the walls of the C., the reverse process takes place, and glistening crystals of calcium carbonate remain. If water, laden with calcium blearbonate, tripellies the consult Badin, Grotles 1870; Pengelly, Kent's Browne, Lee Caves of the standard, 1865; Daw-C., the reverse process takes place, kin, Cave Hunting, 1874; and Hovoy, Celebrated American Caverns, 1882.

Caviare is the roc of the standard tripellies the consult Badin, Grotles 1870; Pengelly, Kent's 1870; Pengelly, Ke

dome-shaped mounds appear.

carried up by the sea, have also a in Austria, whilst in England most great eroding power upon rocks. In cautiful specimens can be seen at rock-salt districts large caves are Cheddar. C. are also formed under formed owing to the free solubility of sheets of lava in volcanic districts, the sodium chlorido in water. In such as parts of S. America and Iceland. Tho lava collects over a mass of lcc (or over snow which then is solidified); melting of the lec subsequently takes place, and a hollow is left beneath the lava. The Fossa della Palomba, at Etna, was probably formed by the evaporation of water below the lava juto steam, which afterwards found an outlet and cseaped. The remains, such as bones and rude implements of domestic use, that have been found by means of exeavation provo that men in pre-historie times inhabited C. Human hones have been discovered, em-bedded sometimes in mud and fre-quently in calcarcous matter. This latter fact—that bones have been covered in limestone crystals-shows that the C. must later have been described, and the stream of water returned to its former subterranean course. Bones of mammals belonging to the Pleistocene period have also been found. From the remains of bones discovered, it appears in general that the animals that visited C. resembled large hymnas or bears, but in a few C. romains of herblyorous animals have also been discovered. In the C. at Kirkdalo, near York, as many as 300 hyenns have from time to time been found. The bones in the

belonged

and giscening crystals of catelum cerbonate remain. If water, laden carbonate remain. If water, laden carbonate remain blearbonate, trickling through the roof of telestic course of ages similar are formed in the shape of felestic loosely granulated and almost fluid. These doposite slowly grow in size as is the best. A coarser kind called the water drips from thein, and where the solution falls on the floor of the C., food in Eastern Europe, Hamlet's dome-shaped mounds appear. The remark that 'His play . . . was deviate to the general' proves that The remark that 'His play . . . was roof caviaro to the general' proves that e on it was a known delicacy in Shakc-

tho spearo's day. be- Cavite, the cap. of the prov. of that Cavite, Luzon, Philippine Is. It is situated on Manila Bay, 8 m. from the city of Manila, is a fortified seaport and a naval station of the United States, the N. part of the town serving as a coaling station. It is an old town containing narrow streets and buildings of stone with upper stories of wood; it possesses five churches and a high school. It is the chief naval base of the Philippine Is., and during the 19th century was the scene of political troubles. An American squadron under Commodore George Dewey wrested it from Spain in May 1898. Pop. of province, 15,630; town, 4494. The chief products of the province are sugar, rice, coffee, and indigo.

Cavour, a tn. of Turin, Piedmont, Italy, 7 m. S.E. of Pinerolo. It has marble and slate quarries, manufs. silk, and has a tanning industry. Pop.

7000.

Cavour, Camillo Benso, Count (1810-61), Italian statesman, born at Turin, of an ancient aristocratic family of Piedmont. He waseducated for the army at the Military Academy at Turin till 1826, when he obtained a commission in the engineers and was engaged in works of defence at various fortresses. During his leisure he studied English politics, and de-reloped his strong liberal views which caused him to be regarded with In 1831 he resigned his suspicion. commission and devoted himself to social problems, practical agriculture, and foreign travel. He visited Paris and London, and gained a profound knowledge of European politics. He

Lizi, and founded the Society aided culture of Piedmont. In The started at Turin a newspa Italy Risorgimento, for the purpose of followed, and the subsequent defeat spreading the ideas of constitutional reform. In Jan. 1848, the revolution in Sicily broke out, and C.'s speech on the constitutional questions had the utmost influence, not only on the people, but on the Piedmontese king, Charles Albert, who was induced to grant a constitution. C. was not offered a seat in the first ministry. but his articles in his paper powerfully stirred the growing national enthusiasm against Austria and the trrunnics of the different kingdoms and principalities in which Italy was sulit up. He felt that the moment had come for war with Austria, and his skill and enthusiastic patriotism was nowerful enough, and war was de-declared, 1848. The defeats at Cus-tozza and Novara led to an armistice,

Italian kingdom. His difficulties were immense, for he had, in addition to all the external force of Austria and the supporters of the dynasties in Tuscany, Naples, etc., to face the divided policies of Mazzini and the republicans and the danger of an anti-papal and anti-clerical movement, which would have destroyed his schemes. In 1850 he became minister of agriculture and com-merce, and in 1851 of finance, but he resigned on a difference with the prime minister, d'Azeglio. He then travelled in France and England to discover the trend of foreign opinion in regard to the Italian problem. In 1852 he returned and was appointed Prime Minister, a post which he filled, with short intervals, till his death. He now began his masterly scheme of foreign policy, which made a united Italy possible, and ranks his name with Bismarck in modern European He placed Sardinia and history. Piedmont among the powers by send-ing a well-disciplined force to the Crimea, Austria remained while neutral. He secured the benevolent neutrality of England, and in 1858 formed an alliance with Napoleon III., followed by a victorious joint cam-pairn against Austria (Alagenta and Solferino). The agreement of Villa franca, brought about by the sudden withdrawal of Napoleon, left Venetia in the hands of Austria, and bitterly disappointed C. who resigned, but later returned to office. He had ceded knowledge of European politics. He Nice, Garibaldi's birthplace, and then managed his father's estates at Savoy to France in return for the

> of the Neapolitan kingdom in Sicily and Naples by Garibuldi. Save for the question of Rome and the papal temporal power and Venetia, C.'s Victor policy policy had succeeded. Victor Emmanuel II. was king of a united Italy. A violent scene with Garibaldi in the parliament broke him, worn out by anxiety and overwork. He died at Turin in June. The regenera-tion of Italy had been his ideal, and his life's work had been given to that end. See G. Buzzieoni. Bibliographa Curouriana, Turin, 1898; Countess E. M. Cesaresco, Carour, Lond., 1898; Laniehelli, Carour, Flor., 1905.

Cavy, or Cavia, a genus of rodents found in S. and Central America, typical of the family to which the capybara or carpincho belongs. tozza and Notara led to an armistice, icappeara or carpineno behongs. And the abdication of Charles Athert in Cs. have rough hair, well-developed favour of his son Victor Emmanuel ears, no tail, reduced toes, four on the II., and peace. C. was not disflore feet and two on the hind feet heartened and threw himself still. The guinea-pig, C. cobaya, known to more ardently into his ideal of from C. porcellus, the restless C., a species with greyish fur. The Pata-its vicinity, is now marked by a white gonian C. is a large animal of the marblememorial. Pop. (1901) 197,170. goman C. is a large annual of the same family Cavidæ, but its two species form the genus Dolichotis; it resembles somewhat a long-legged hare, and has the same number of toes as Cavia.

Gawdor, a parish of Inverness and Nairn, Scotland, 3½ m. S.W. of Nairn. In the fine old mediæval castle the murder of King Duncan is popularly supposed to have taken place, but it actually occurred several ecuturies

before the castle was built. Pop. 1500. Cawdor, Frederick Archibald Vaughan Campbell, third Earl of (1847-1911), horn at Windsor; educated at Eton and Oxford. He was Conservative M.P. for Carnarvonshire, 1874-85; in 1880 became an Ecclesiastical Commissioner; was a Commissioner in Lunacy, 1886-93; in 1888 became a county councillor for Carnarvonshire, and in 1896 lord-instance of Pembergeshipe; in 1808 lientenant of Pembrokeshire; in 1898 succeeded to the title; in 1905 was appointed First Lord of the Admiralty; and in 1908 became a member of the Council of the Prince of Wales. From 1895-1905 he was Chairman of the Great Western Railway.

Cawley, William (1602-66), an English regieide. He founded St. Bartholomem's Hospital, Chichester, 1626 (now a workhouse). C. was fined for refusing knighthood, 1629. He was M.P. for Chichester, 1627; for Midhurst, 1640, and was an active member of the Long Parliament. He was excepted from pardon, 1660, and fled to Belgium, and then to Switzerland, his property being granted to James, Duke of York. See Noble, History of the Regicides, i.

Cawnpur, a city (and district) on the S. bank of the Ganges, in the Allahabad division of the United Provinces, British India. Lucknow lies 40 m. to the N.E. Once an important fronticr station under the E. India Company, it is now known as the junction of four railroads, the Indian Midland, the E. Indian, the Ondhand Rohilkhand, and the Rajputana. The chief articles of commerce are various leather goods, such as harness and shoes. The district was once a centre of the indigo trade. Historically the city will long be remembered as the scene of a series of massacres of men, women, and children by the Nana Sahib in July 1857. General Wheeler, who with a small force tried to protect the European residents, was encamped for twenty-one days in a bare field fully exposed to the fire of the in-surgents. The well of C., which enjoys an evil notoriety because of the atrocious butcheries committed in Andes, in Eucador, practically on the

Caxias: 1. Town of Maranhão, Brazil, formerly known as Aldeas Altas, on R. Itapieuru, 180 m. S.E. of Maranhão, with which it has river connection. It has rive and cotton industries. Pop. 10,000. 2. Italian industries. Pop. 10,000. 2. Italian eolony in Rio Grande dul Sul, Brazil. 60 m. N.W. of Porto Alegre. Pop. 15,000.

Caxton, William (14223-91), the first English printer, born in Kent. In 1438 he was apprenticed to a rich silk mercer, and the latter dying in silk mercer, and the latter dying in 1441, young C. was despatched to Bruges to finish his term. Here he set up business for himself, and in 1464 and 1468 he was employed, as governor of the Company of Merchant Adventurers, in negotiating commercial treaties with the dukes of Eugenda. The second time his Burgundy. mission was quite successful, and from 1471-6 he entered the household of the Duchess Margaret, sister of Edward IV., and wife of Charles the Bold of Burgundy, as commercial adviser. There is some doubt as to where C. actually learnt the art of printing. Many—among them Wyn-kyn de Worde, his diseiple—say it was at Cologne, between 1471 and 1474, in company with Colard Mansion, who was his partner at Bruges, where he printed his first book in This was a translation of a 1474. French romance entitled The Recuyell of the Historyes of Troye. In the same year his second printed work ap-peared, The Game and Playe of Chesse, another translation. In 1476 C. was duly installed in Westminster. Lord Rivers' version of The Dictes or Savengis of the Philosophres, 1477, has the distinction of heing the first issue from C.'s printing press In his own country. Thenceforward C. published some eighty books, many of them his own translations of famous French legends and cycles of romance. His Myrrour of the World, 1481, is the first volume he issued with woodcut illustrations, whilst as many seventy woodcuts were inserted in his edition of the Golden Legend—his own compilation of a French work of the 13th century, containing lives of the saints. But to his fellow-country-men he will be remembered above all for his services in fixing the English language, which was in a changing, somewhat chaotic condition, and in bringing the literary masterpieces within the reach of those who could read. Twice he printed Chaucer's Canterbury Tales, and be brought out also Gower's Confessio Amantis, 1483.

name (pop. 3000) at the foot. Alti- of the ancients.

tude, 19,255 feet.

Cayenne, a port and the cap, of French Guiana, at the mouth of the Cayenne on the N.W. of the island of that name. It has two quays, but no docks, and only a shallow harbour. The staple exports are gold, cocoa, hides, and spices, whilst it imports wines, manufactured goods of all kinds, and corn. The inhabitants live on bread and wine, and are subject to attacks of yellow fever Pop. 12,600.

Cayenne Pepper, a hot condiment, reddish in colour, which is used for flavouring sauces, pickles, fish, etc. It is ground from the seeds and pods of Capsicum, a genus of plants be-longing to the order Solanacese.

Pop. 25,000.

San Juan.

Pop. 3763.

Cayley, Arthur (1821-95), an English mathematician, born at Richmond, in Surrey. He was educated at King's currey. He was educated at king's are devershipwrights. Georgetown is College, London, and Trinity College, the chief city of Grand C. The total Cambridge. Senior wrangler of his pop. of the group is some 5000. year (1842), he was also winner of the Smith prize. He became a fellow ambia, W. Africa, having a coast of his college, but in 1846 he left line of about 100 m. from the mouth Cambridge, and three years later was, of the Seneral to Cape Verde, and called to the bar. He practised as a extending inland for from 20 to 60 m. barrister for 14 years and then re- Unballed by Volca. barrister for 14 years and then re- Inhabited by Yolofs, turned to Cambridge as Sadlerian Cayster, ancient na professor of mathematics. He wrote Asia Minor, 75 m. lo over \$00 papers and memoirs which, collected and published by the Cambridge University Press, form a monument to his fame as one of the greatest of mathematicians. He possessed honorary degrees of almost every foreign university, and was a fellow of the Royal Society. He died at Cambridge, and a portrait and bust of him are to be found at Trinity College.

Caylus, Anne Claude Philippe de Tubieres, Comte de (1692-1765), arche-ologist, served with some distinction the Spanish War of Succession (1709-14), and then travelled abroad. serious life was zealously devoted to active revolutionist and a Roman the collection and study of antiquities and the promotion of art by patronada age and writing, but he was also became director of the occlesiastical age and writing, but he was also became director of the occlesiastical age and writing, but he was also serious for his intimate knowledge of the most disreputable side of Parisian life. His great work was his Equipment of Antiquities Expiritiones, Italiana and Elrusques, Greeques, Romaines, d'Nos Maux el laux Remètes, 1874. Cauloises (6 vols., 1752-5), but he also wrote a treatise on Roman coins laborated in the Courle of Serille, also wrote a treatise on Roman coins laborate of the modern of the modern of the modern of the laborate of the (1755), in which he explained the Moorish remains. Pop. 7782.

equator, having a town of the same exact nature of the encaustic painting The copperplate engravings, which he himself made of Bartoli's copies from ancient pictures,

are excellent

Caylus, Marie Marguérite le Valois de Villette de Murcay, Comtesse de (1673-1729), a French noblewoman, born at Poiton, the granddaughter of Theodore Agrippa d'Aubigné. was taken to Paris and educated at court by her aunt. Madame de Main-tenon, and in 1688 married the Marquis de C., who died in 1704. She won a great contemporary reputation as a beauty and wit, and left a book which was edited as Sourcairs by Voltaire in 1770.

Cayman, see CAPMAN.
Cayman Islands are three low-lying islands of the W. Indies, which were Cayes, or Aux Cayes, seaport on S. islands of the W. Indies, which were coast of Hayti. 98 m. S.W. of Port-an-colonised by the British from Prince. Exports coffee and logwood. Jamaica. 178 m. to the E.S.E. of which they still form a dependency. Cayer, in. of Porto Rico, W. Indies, Columbus, who discovered them, in the Central Cordillera, 25 m. S. of named them Tortugas after the It is a summer resort, and | turtles which abound, and which are the centre of a rice and cotton district. even to-day the chief export of the islands. Cocoa-nuts are grown on Little C. and C. Brac. The islands are rich in timber, and their inhabitants are clever shipwrights. Georgetown is

Cayster, ancient name of a river of Asia Minor, 75 m. long, which flows into the Gulf of Scala Novo, 35 m. S.E. of Smyrna.

Cayuga: 1. Co. of New York State, U.S.A., bounded on N. by Lake Ontario, and on W. by Lake Cayuga. It has deposits of salt, gypsum, and linestone. Area. 722 50. m. Pop. 65.234. 2. Lake of New York State. U.S.A., lying parily in Tompkins co., and forming the boundary between Cayuga and Seneca cos. Length, 38 m.; average width 4 m. 4 the bear. m.; average width, 4 m. At the head lies Ithaca.

Cazalés, Edmond de (1804-76), a French political writer, born at Grevisiting Greece and the East. His made (Haute-Garonne). He was an serious life was zealously devoted to active revolutionist and a Roman

Cazembe, or Kazembe, formerly a higher ground, cattle are raised and rai East Africa, some horses. The chief products are

. now included

amed after one of the govorning chiefs, whose sottlement is noar the Luapala R., about 30 m. S. of the lake. It produces manioc, maize, cotton, ivory, iron, and copper.

Cazin, Jean Charles (1840-1901), a French painter, born at Samer, Pas-de-Calais, the son of F. J. C., a famous doctor; studied in France and England, where he came into contact with the Pre-Raphaelites. In 1889 ho was made an officer of the Legion of Honour. Though his carliest works are on religious subjects, he oxcelled in landscapes into which figures were introduced. Among bis best pictures are 'The Flight into Egypt,' 1877; 'Hagar and Ishuael,' 1880; 'Souvo-nir do 18te,' 1881; and 'Journée faite,' 1888.

Cazoria, a tn. of Jaon, Andalusia, Spain, 41 m. S.E. of Linares, on the northern slope of the Sierra C. It has numerous ancient remains and two

castles. Pop. 7936.

Cean-Bermudez, Juan Augustin (1749-1834), born at Gijon in the Asturias. He studied architecture and drawing, but not apparently with any great success, and, having a mail normal the greatment. small ponsion from the government, ho was enabled to devote himself entirely to his literary pursuits as the historian of Spanish art. His first publication was the Diccionario Historica de los mas ilustres Professores de torica de los mas ilustres Professores de las Bellos Artes en España, 6 vols. 8vo, 1800; and his others are: Descripcion Artistica de la Catedral de Sevilla, 1804; Descripcion del Hospitat del Sangre, 1804; Carla sobre el Estilo, etc., de la Escuela Sevillana, 1806; Dialogo sobre el Arte de Pintar, 1819; and lastly the Noticias de los Arquitedes y Arquitedura en España Arquitectos y Arquitectura en España 4 vols. 4to, 1829, etc., a work founded upon materials collected by Eugenio Llaguno. He also published memoir of his friend Jovellanos.

Ceanothus, a genus of Rhamnacere. of whileh the species, natives of America, are cultivated as ornamental shrubs. C. Americanus, red root tain ranges. The chief products are or New Jersey tca, is a beautiful shrub sugar, copra, tobacco, and hemp. when in flower and dyes wool c fine strong nankin cinnamon cok Soveral other species grow well in country and flourish in shrubberic

Ceara, a northern state of Bra bounded N. and E. by the Atlantic, Rio Grande do Norte and Parahyba, S. by Pornambueo, and W. by Piauhy; lying partly on the great Brazilian plateau, its formation is that of terraces cut up by watercourses and high hills (2400 ft.); the climate is cotton, sugar, coffeo, etc.; manicoba, or C. rubber, also grows there. The or C. rubber, also grows there. The capital is Fortaleza, also called C. It became a province in 1822, under Don Pedro I., and has an area of 40,253 sq. m. Pop. 849,127, chiefly coloured races and their mixtures

with whites. Ceará Mirim, a tn. in Rio Grande do Norte, a northern prov. of Brazil. It takes its name from the river on which it is situated; It contains good pasture land, where cattle is raised, and manufactures cotton and sugar.

Pop. 18,000.

Cebes, of Thebes, a Greek philosopher, is the reputed author of the sopher, is the reputed author of the Pinax, or Tabula. In the middle ages this book was very popular, and was translated into many languages, including Arabic. It professes to be an intermetation of an allegorical picture interpretation of an allegorical picture in a temple. Like Pilgrim's Progress it draws a picture of the snares and temptations of this life, and concludes that the true end of learning is to mould character. C. appears in Piato's Phado as an eager debater, zealous in his search of the highest virtue. This C. was a disciple of Socrates. However, although the Socrates. author of the book was inspired by the Platonic theories of pre-existence and education, modern criticism now assigns the Tabula to some unknown writer of the 2nd century A.D.

Cebidee, a large family of Primates which is divided into four sub-families, represented by the howling monkeys, sakis, teetees, and Capuehin monkeys. They inhabit trees of the Ncotropical region and several fossil forms have been discovered.

Cebrionites, a genus of coleopterous insects of the family Malacodermide to which the glow-worms belong. They are moderate sized beetles with soft skins, and are often found on plants in marshy places; the larve are carnivorous. Cebrio gigas is common in France.

Cebu, island, Philippines; area 2000 sq. m. It is intersected by fine mountain ranges. The chief products are

The island continues under the U.S.A. the prosperity it enjoyed under Spanish rule. The first Spanish settlement was in 1565. Pop. 600,000. The capital town, Cebu, is situated on the E. coast, N. of the centre. It is a port of entry and a municipality; the port very hot and it is subject to severe is well protected from storms. The and destructive droughts. On the streets are wide and well laid out, and

ished in the 18th century, contains a cross said to have been erected by Magellan, the great explorer, who was killed in the neighbouring island of Mactan. Pop. of C., town, 18,330; municipality, 31,000 (including Mabolo, \$500, and El Pardo, 6500).

Cehus, a genns of monkeys typical of the family Cehide, which helongs to S. America. The species have a well-developed thumh, a hairy prehensile tail, and thirty-six teeth. They include the Capuchin monkeys (g.r.), and are common in Britain as the companions of hurdy-gurdy

players.

Ceccano, a tn. of prov. Rome, Italy, on R. Sacco, 5 m. S. of Frosinone.

travel. Cech, Svatopluk (b. 1846), horn at Costredec, in Bohemia. He is one of the hest known poets of Bohemia. Marquess of Salisbury, educated at His poems, inspired by national ending the hest known to the collection of the collection Vaclar z Michaloric. Leselinsky Korar (The Smith of Lesetin), and novels are Poridly,

good roads traverse the surrounding larvæ are small maggots which live country. C. is an episcopal see, and on vegetable or animal substance, the bishop's palace is famous for its land frequently produce galls on internal decoration. The Angustinian plants. C. destructor, the Hessian fly church possesses the miraculous imof N. America, is well-known as a
age of Santo Nino. The leper hospital was removed in 1906 to the wheat-fly, has a larva which feeds
island of Culion. The cathedral, finon the police of wheat and the car consequently produces no grain; C. solicina is common in France on

willows. Cecil, Lord (Edgar Algernon) Robert (b. 1864), third son of the third Margness of Salisbury, hecame K.C. in 1899, a member of the general council of the har, and a prominent member of the Conservative party. He married Lady Eleanor Lambton, daughter of the Earl of Durham. He was M.P. for Marylebone, 1906. hnt resigned his candidature, 1910. on account of Tariff Reform. He stood for Blackburn as a Unionist Free Trader, but was defeated. In 1911 (by-election) he was elected Unionist member for the Hitchin

on R. Sacco, 5 m. S. of Froshord Pop. 6728.

Cecchi, Antonio (1849-96), born at Pesaro in Italy. He was a great traveller and explorer, and took part in the Marquis Antinori's expedition to Abyssinia (1876), being responsible for their route from Zeila to Shoa. Two rears later he went on an expedition to explore the Galla to Shoa. Two rears later he went on an expedition to explore the Galla A. Maxse. In 1896 he served as expedition to explore the Galla A. Maxse. In 1896 he served as Loc. to Lord Kitchener in the Dongola and Kile expectations; accompanion having succumbed during: was A.D.C. to Lord Kitchener, 1898, and was present at the battles of a mission to Massowah by the Italian government and succeeded in continuent. He was next sent on a mission to Massowah by the Italian government and succeeded in continuent and succeeded in continuent. He was next sent on a mission to Massowah by the Italian government and succeeded in continuent. He was made cretary for War to the government, and is now

Under-Secretary for Finance.

Conservative member for Greenwich. Korar (The Smith of Lesetin), and 1895-1905, first as a supporter of Mr. Besne otroka (The Songs of a Slave). Balfour's Education Act, 1904, and He is also well known as the editor of later as one of the leaders of the the paper Krew, which he took over Unionist Free Traders in opposition in 1879; and as a novelist, his wit and 'to Mr. Chamberlain's policy of Tariff satire making him extremely popular Reform. He was defeated in a three-with his readers. His best known cornered election for Greenwich, 1906, novels are Poridly, Arabesly a and was returned nnopposed for Humoresly, 1878-80, and The Candi-Oxford University, 1910. He is an date for Immortality, 1884. ardent High Churchman, and an date for Immortality, 1884. The Canara date for Immortality, 1884. The canara ardent High Churchman, and an Cecidomyia, the typical genus of the family of dipterous insects known as Cecidomyildæ, the species of which are characterised by heing minute feeling in the House of Commons, and fragile, with longish antenne furnished with whorls of hair. The book on Conservatism.

Cecil, John (1558-1626), an English, Rubens, and Domenichino. priest and political agent, horn at is the festival of another St. Cecilia Worcester; educated at Oxford, who suffered martyrdom in Africa Rheims, and Rome, where he became secretary to Cardinal Allen. He later went to Spain, and was employed by Father Parsons in various treasonable missions between Spain and England. He also acted as a spy for Burghley and Sir Robert Cecil. In 1594 he went to Spain to ask the aid of Philip for the Scottish Catholics, and acted with great success on numerous politicalreligious missions to France and Rome.

Robert, Earl of Salisbury Cecil, (1563?-1612), statesman. succeeded his fother, Lord Burghley, as Secretary of State (1596-1608). He was one of the commissioners who tried Essex for leaving Ireland without permission (1600). James I. rewarded C., who had helped him to the crown, by the gift of an earldom, but wanting C.'s estate at Theobalds for himself, obliged him to take Hatfield in ex-change. The crook-backed earl, as called, was an execlient he was

speaker.

Cecil, William, Baron Burleigh (1520-98), an English statesman, born at Bourne, Lincolnshire; studied at Cambridge and Gray's Inn. In 1547 he became 'custos brevium,' and a few months after Master of Requests; in 1548 secretary to Lord Protector Somerset; in 1550 Secretary of State; and in 1551 was knighted. He retired from office during Mary's reign, but was again made Secretary of State on the accession of Elizabeth in 1558. From that time till his death he continued the chief minister of the realm. being notable for his sagacity and prudence. He was created Baron Burleigh in 1571 and Lord High Treasurer in 1572.

Cecilla, Saint, in the Catholic Church the patron saint of the blind and of music. Tradition credits her with having been a blind Roman maiden who was martyred in the time of Alexander Severus (230), but corroborates research opinion of Fortunatus, Bishop of Poitiers (d. 600), that she lived in Sieily and was put to death by Mareus Aurelius about 176 A.D. There is a church in the Trastevere in Home dedicated to her. Her festival falls on Nov. 22, and was always a musical celebration on always a musical celchration on account of her supposed love of music. Many English poets have composed odes to her, the best known being that of Dryden, set to music by Handel in 1736 and by Sir Hubert Parry in 1889. She has been made famous in literature by Chaucer's Seconde Nonne's Tale, and immortalised on canvas by Raphael,

Feb. 11 under Diocletian (303-4).

Cecropia, a genus of tropical American plants of the order Moraceæ. The wood is very light, and ignites readily by friction: the fruit resembles a raspherry and has an agreeable flavour; the bark is fibrous. C. pellata, the trumpet-tree or snake-wood, is a native of W. Indies and S. America, and the stems are made into trumpets by the Indians. It is noted as an example of myrmecophily in which ants live in the hollow stems, obtain food from the tree, and guard it against the ravages of leaf-cutting

Cecrops, in Greek mythology, the traditional first king of Attlea, and according to Pausanias, the founder of its future political life. He divided the people into twelve communities, and instituted the laws of property and marriage; he abolished the sacri-fice of blood, and was the legendary giver of the ollve-tree to Attica. His tomb was in the Erechtheum at

Athens.

Cedar, or Cedrus, a genus of Coniferre which contains three species, C. Libani, C. of Lebanon, C. at-lantica, the silver or Mt. Atlas C. of Algeria, and C. deodara, the deodar fountain-tree of India. These species, which are probably only varieties of a former plant, agree in having a fragrant, durable, light red wood which is used in building and cabinetmaking. They are evergreen shrubs with needle-shaped persistent leaves, have wide-spreading branches, thick trunks, and the seeds take two to three years to ripen. They are culti-vated in Britain on account of their handsome appearance, and in India they are thought to be sacred, and are planted near temples.
which exudes from the trunks was
formerly used in embalming, and are planted near temples. The resin an oil was prepared from it. The name of C. is given to about fifty other trees, especially to several of the genera Cedrela, Chamcomparis, Cupressus, Juniperus, and Thuja. The bastard C. of Jamaica is Guazuma tomentosa, and the white-wood is Tecoma Leucoxylon.

Cedarberg, or Cedar Mountains, a mountain range in the N.W. of Cape Colony, S. Africa, so called from the profusion with which it is covered by the native cedar (Widdringtonia juniperoides). Highest peak, Sneeuw-

kop (6300 ft.).

Cedar-bird, or Ampelis carolinensis passeriform bird common to N. America, and is closely related to the waxwing. It is a songless bird, gregarious in habit, swift of flight, and Carolina wax-wing.

Cedar Creek, a river of Northern formula C₁₀H₁₁O₂. It is prepared in the pure condition from the distillation products of becchwood tar.

Cetalū, a seaport of Sicily, standing on the N. coast, at the foot of a moun-

Early, were defeated by the Federals, under Sheridan, on Oct. 19, 1864.
Cedar Falls, a city of Black Hawk co., Iowa, U.S.A., 60 m. N.W. of Cedar Rapids on the Cedar R., and 93 m. N. of Dubuque. It has large manufs. of lumber, furniture, flour, etc., for which water-power is utilised. Pop. 5400.

Cedar Gum, a resin obtained from Callitris arborea used in medicine and in making varnish. It had a fragrant odour, and in appearance is It had a

yellow and transparent.

Cedar Oil, which is an essential oil frequently used in mounting sections. is obtained from Juniperus Virginiana. This tree, aithough known as the N. American red-cedar or pencil-

cedar, is not a true cedar.

Cedar Rapids, a city, Linn co., Iowa, U.S.A., on Cedar R., 63 m. S.W. of Dubuque, and on several rallways. The water-power of the rapids is utilised in the manuf. of machinery, carriages, tools, clears, textiles, etc., and in pork-packing, brewing, and railway industries. It is the seat of Coe College, founded 1881. Pop. 32,811. 1881. Pop. 32,811. Cedar Resin, the name given to the

exudation of codar-trees and allied species of Conifere. It was at one

time employed in embalming.

Cederschiöld, Gustav J. Kristofer (b. 1849), a Swedish philologist, born at Stockholm. In 1893 he became professor of the Norther: From at Gothenburg

His works include Om Erikskrönikan, 1899 -1885-91: Om Om Sven-

(2nd cd.): skan and Rytmens trollmakt, 1906; and he has edited the old Norse texts, Fornsögur Sudrlanda, 1884; and

Allnordische Sagabibliothek, 1891.

Cedrela, a genus of tropical Meliacete, many of the species of which yield a compact, scented, and beautifully-yeined timbor. C. toona, the bastard-codar, toon or cedar-wood of S. Indla, has a bark which is a powerful astringent. C. australis ls the Australian red cedar, and Codorata, the West Indian codar, is moreland; the made into clgar-boxes.

Cedriret, or Corulignone, a volatile 1852), Bohemi solid occurring in the form of dark early became blue needles when in the crystallino for Slavonio i

has a voracious appetite, feeding on condition. It was discovered by berries, fruits, and insects. It is Reichenbach who obtained it from known also as the American or coal-tar products, and its chemical constitution is represented by the

> tain, 36 m. S.E. of Palcrmo. It has a fine Norman cathedral, and remains of Norman fortifications, while traces remain of the ancient Greek town of Cephalædium. There are rich marble quarries near. Sardine fishing is an important industry. Pop. 13,000.

Ceglie, a tn. of Lecce, Apulia, Italy, 27 m. N. of Brindisi. Pop. 16,867.

Cehegin, tn. of Murcia, Spain, 30 m. N.W. of Lorca. The ancient Legisa. Cereals, wine, hemp, honcy, and esparto grass are among its products, and it manufs, paper. There are rich quarries of black marble near. 12.000.

Ceiling, an architectural or building term for the upper interior covering of a room, hall, church, or other building. The derivation has been building. The derivation has been much disputed. Lat. eclare, to carvo, celare, to hide, have been suggested, but the most probable source is French eiel, Latin, cælum, sky. The term ceiling should not be confused with 'roof,' the C. being 'the undercovering of a roof or floor concealing the timbers' (Murray, New English Dictionary): thus such magnificent timber work as may be seen in Westminster Hall or Middlo Temple Hall or the stone yaulting of eathedrais. or the stone vaulting of cathedrals, etc., should not be treated as Cs. In the 14th century the construction of Cs. proper doveloped, so that what was merely the under side of the room above became an ornamental room below. French B. of the 16th century

been engaged on the nov In plaster, gilded, and to be issued by the Swedish Academy. painted. In 1520 Raphael executed His works include Om Erikskrönikan, for the Vatican a reproduction of a C. from the Golden House of Nero, and the classical mouldings bavo been a favourite source of decorativo design among architects, notably to the brothers Adam at the close of the 18th century. In modern times a return to the early timbered Cs., where the constructional beams remain visible, has become popular. The St. wooden C. of Albans Cathedral is one of the earliest examples of Among other Italian C. at

Haddon Hall. Celakovsky, 1

His Slowanské národní písní (1822-27), belonging to the Dutch in the East was a collection of Slavonic national Indies. It is situated E. of Borneo songs, and he wrote a book on The philosophy of the Slavonic nation in proverbs, besides translating a number of Russian national songs into the 'kindred Bohquian.' Deprived of his editorship of the leading newspaper of Prague, and of his professorship at the university because of his criticism of the severity of Emperor Nicholas in quelling the Polish insurrections, he accepted a professorship at Breslau in 1842, and in 1849 came home to his beloved Prague to die, his calamities having embittered and warned his nature. His Ruze stolista (hundred-leaved rose) is considered his finest noem.

Celandine, the name applied to several diverse plants. The genus Bocconia containing the W. Indian C., and the genus Chelidonium containing the taining the common C., are both members of the order Papaveracee, while Ranunculus, to which the lesser C. belongs, is the typical genus of Ranunculacce. C. majus, the com-mon or greater C. occurs in Britain; the flowers are small, have four yellow petals, and are in simple umbels. petais, and are in simple umbels. R. ficaria, the lesser C., figwort, or pilewort, resembles a buttercup, and has nine yellow petals; it was of this plant that Wordsworth sang.

Celano, Thomas (ft. 1250), muslcal composer, belonged to the order of Minor Friars. It is cortain that he more than seasonable descriptions.

splendldly wrote the dramatle musical setting to Dies iræ, dies illa, and some helievo him to botho author of the words as well.

Celano, Lake of. seeFUCINO.

LAKE OF.

Celastraceæ, an order of dicotylodonous plants containing about forty genera in tropical and temperate The species are trees or countries. shrubs, with simple, stipulate, ofteo leathery leaves, with small, usually bermapbrodite flowers. The calyx consists of four or five free or united sepals, the corolla of four or five in petals, the stamens, four or five in number, and the carpels, two to five in number, are inserted on a flattened There are usually two ovules in cach loculus of the ovary, and the sceds have usually a bright aril; the fruit varies. The chief genus is Euonymus, the spindle-tree, the wood

Guc 650 $\mathbf{sad} \cdot$

m.

and separated from that Island by the Strait of Macassar. Inshapo it is a long narrow strip (

to S., with thr running E., 't tively. Each extension is separated by gulls named Tomini, Tomori, and Boni. Minahassa, the name given to the N.E. extremity of the N. arm, is of volcanic origin; it is 7500 ft. high, and terminates in Mt. Keina. Iu the S., in Macassar, the elevation runs up to 10,070 ft. in Bobokaraeng, and 10,000 ft. in Bonthaeng. One of the characteristics of this island is the number of lakes, most of them large, and situated at a considerable height above sea-level. Lako Posso, the central lake, is 1640 ft. abovo sealovel, and Lake Tondano in Mina-hassa 2000 ft. Sadang is the name given to the chief river, which is in the W. of the Island, but it is of very little use for navigation. A N. wind prevails most of the time, and that, together with the sea breezes and rain, tends to temper the great heat, and thus make the climate an exceedingly healthy one. Gold, sulphur and coal (lignite) are all found in the C. No large carnivorous animals are found here, nor has it the elephant, rhinoceros, or tapir, but the fauna is a specialised one. Reptiles are very numerous. The chief oxports are coffee, trepay, nutmegs, copra, copal. and tohacco, and the trade is mainly done from the ports Vlaardingen or Macassar, and Kema in Minahassa. The Dutch built factories on the Island in the latter half of the 17th century, and have retained possession ever since. The inhabitants are mostly Malays. Total area about 70,000 sq. in. Pop. said to be under 2,000,000. Celebes Sea, an arm of the Pacific Ocean, surrounded by the Sulu Islands and the Mindanao on the N.,

the Celebes on the S., and Borneo on tho W. Celery, or Apium graveolens, a European species of Umbelliferæ found wild in the marshes of England near the sea. In its wild state the plant is poisonous, but when cultivated the blanched leaf-stalks are valuable as purifiers of the blood, and may be caten raw with cheese and salt, stewed as a vegetable. or made into sonp. The form known as celariac is grown on the continent on account of the turnip-like flavour of the roots, and it is used chiefy in made dishes or in sauces. In the cultivation of C. the plants are raised from C isceds sown in a light, rich, well-drained soil from the end of March to Kildare, Ireland. Pop, less than 1000, the beginning of May. When they are Celebes, an island of peculiar shape, a few inches high they are transseeds sown in a light, rich, well-drained soil from the end of March to

made, and the plants are placed in a row in a trench and gradually earthed up until they receive no light. The soil in this case should be very rich, well fertilised, and well drained, and the goodness of the C. is dependent on ite rapid growth and the solid stalk of

the leaves. Céleste, Madame (1815-82), French dancer and actress, born in Paris. As a child she learnt dancing at the opera ballet, and when only fifteen was offered an engagement in New York. where she made her first appearance at the Bowery Theatre. She then came to England and played Fencila in Musaniello at Liverpool and in London, 1831. In 1834, she returned to the United States where she created a great sensation; according to the story President Jackson intro-duced her to his cabinet. She re-turned to London in 1837, gaye up dancing and appeared at Drury Lane. Her best part was Miami in Green Bushes by Buckstone. She was manager of the Adelphi Theatre with Ben Webster, and subsequently of the Lyceum. She retired in 1870 and died in Paris.

Celesti, Andrea (1637-1706), a painter of the Venetian school, horn and died at Venice. C.'s works are very attractive, especially in colouring, in which he resembles Paul Veronese. He painted landscape, history, sacred and profane, and genre; cabinet pictures, gallery pictures, and altar pieces. Five of his best pictures are in the gallery of Dresden, one of which is the sack of a eity by night; it is the largest pieture in the collection, being very nearly 23 ft. long by 13 ft. high.

Celestina, La, a secondary title popularly given to the Comedia de Caliste y Melibea, a Spanish novel of sixteen to twenty-one acts written in dialogue and usually dated at 1463 or 1497. The author is unknown, though it is highly probable that he was a certain Jew. Fernando de Rojas. Although certain resemblances may he traced hetween the characters in the work of Juan Ruiz, an earlier writer, it is nevertheless the daring and eminently successful originality that impresses the reader of L. C. Not only does the novel contain types of all contemporary classes. the best drawn of whom are C., Melihea, and Calisto, hut it is remarkable also for its intense tracie power. It was rapidly translated into French, Italian, Latin, and English, by Mahbe ln 1631.

Celestine is the name of five popes. C. I. (422-432) had a peaceful rule.

planted into another hed until they lie was the first to take an active attain a height of six or seven inches, interest in the churches of Britain npon which a final transplantation is and Ireland. C. II. (1143-44) removed the interdict which his predecessor had put upon King Louis VII. of France. The policy of C. III. (1191-98) was marred by hopcless indecision. After he had crowned Henry VI. Emperor of Germany, he let him do as he liked, nor had be the courage to use his weapon, the interdict, against the recalcitrant Prince John of England. Pope C. IV. died before consecration (1241). The last pope of the name resigned the chair of St. Peter after five months (1294). and for this great refusal figures in

Dante's Inferno. See also CELESTINES.
Celestine, or Celestite, a mineral
consisting of strontium sulphate,
SrSO. It occurs as large well-developed orthorhombic crystals and as fibrous amorphous masses; it frequently has a light blue colour, whence the name C. The crystals are isomorphous with barytes, but are not so abundant; they possess a hardness of 3, and a specific gravity of 3.9. Both forms are found in Triassic rocks; near Bristol it has of 3.9. been found that the strontium forming part of the mineral has been taken up by plants; in Gloucestershire the nineral is put to industrial uses. Other localities are Sicily (a colourless variety), Hungary, Jena (fibrous), Strontian Island in Lake Erie, and Frankstown, Pennsylvania (fibrous), It is also a constituent of some mineral waters. Celestite is used in the mannfacture of other compounds of strontium, such as the hydrate, which is employed in the refining of beet-sugar, and the nitrate, which produces the 'red fire' used in theatres and pyrotechnie displays.

Celestines were a religious order founded about 1256 by Peter di Morrone, afterwards Pope Celestine Though the C. are counted a branch of the Benedictines, their form of government was much more akin to that of such mendicant orders as the Franciscans. Peter tried with ill success to persuade both the Bene-dictine monks of Monte Cassino and the Franciscan spirituals to coalesce with his hrotherhood. At one time there were many Celestine monas-teries in Italy, France, and the Netherlands, but the order is now practically extinct

Celeus, a king of Eleusis In Attica. extended a friendly hospitality to Demeter, when she was seeking for her daughter Persephone. Demeter found solace in nursing Demophoon, C.'s son, but was prevented by the child's mother from making him immortal by holding him over the fire.

Celibacy, a term now generally used

abstinence from marriage (Lat.) cælebs, unmarried), but formally in-cluding the state of a widow or widower. Considered generally, generally, medical opinion holds that the chances of life are greater for married than for single persons, and, from the point of view of the interests of the state, it is obvions that widespread habits of permanent C. or of delay in marriago to a late period of life, must be disastrons. It is thus that C. has been frequently discouraged by legislation In 9 A.D. (Lex Julia et Papia Papæa) the Emperor Augustus decreed that celibates could not inherit unless related to the deceased in the sixth degree, limitations were placed on inheritances from husband to wife and vice versa, if the union was childless, and preference was also given to candidates for office according to the number of their children. Taxation of bachelors has at times been enforced and still more often proposed. It is, however, the enforcement of C. npon the clergy or upon the adherents of particular religions or upon special classes of those adherents that C. is of particular idistoric interest. To trace that history throughout the ages would be to write the history of ascetleism; it must suffice to call attento the self-mutilated priests of Cybele, the Galli, to the Roman vestal virgins, and to the C. of the ancient Buddhist monasteries, and to confine this article to the C. of the secular clergy in the Christian church. The C. of the monastic orders is a matter of vow on entering the order. Hebrew religion mado the priesthood hereditary from father to son and the C. of the Essenes seet was a foreign idea due to contact with Hellenism and the eastern mystics. St. Paul, speaking on the subject, asserts that a missionary can work more freely without the hurden of a wife and chlidren, but reserves for the apostles the right to take a wife with them in their journeys. It has been freely admitted since the Renaissance by the learned churchmen that C. was no rule of the anostolic church, and that view has not been rejected by the latest Catholic anthority. Cierical C. grew slowly, its history can be traced first merely as a custom than as a disci-The first clear rules come from tho 4th century, where bishops and priests were not allowed to marry,

in the sense of a state of complete; rovennes must be kept for the church and not be used to support the families of priests and more stringent rules were put lo force. The synod of Elvira, a local Spanish synod, 305 A.D., was the first to place the ban on the marriage of the higher clergy; at the council of Niewa, 325, a law to cnforce C. on all the clergy was rejected. Paphnutius, a bishop of Egypt, warmed the council against Imposing so heavy a joke, and defended the sanctity of marriage. The decretal of Pope Siricius. 335, commanded C. on hishops, priests, and deacons, and the reparation from their wives on those aheady married. Popes Lco (461), and Gregory the Great (604), extended the rule to subdeacons. The struggle for the en-forcement of C. continuel; it was constantly resisted and frequently. openly, and freely disobeyed. Mar-riage of priests was still recognised sporadically, and where this was not the case, the practice of having concublnes, subintroductæ, was often followed. Pope Gregory VII., Hlidebrand, 1073, took such strong measures that he is often regarded as the author of the rule. Marriages of priests were declared null and void, the wives were treated as conemblaes, and heavy punishments inflicted on them; no priest who broke the rule could perform the Mass, and the lay people were warned against going to such priests. That the rule was not submitted to without a long struggle is shown that in 1450 John de la Bere. Bishop of St. David's, refused to enforce the rule among his clergy, as he derived 400 marks yearly from their women. It was a violent subject of dispute at the Reformation, and finally was one of the most marked lines of difference between the Roman and the Protestant churches. At the Revolution in France, by the constitution of 1791, all restrictions on the marriage of priests were abolished. but few priests took advantage of it. It remains to add that In the Orthodox Greek church, priests usually marry, before taking priests' orders, but may not re-marry; bishops must not continue their married life, but are usually monks. See H. C. Lea, History of Sacerdotal Celibacy, 3rd ed. 1907. Cell, in biology, the living unit of

which all living forms are composed. The plant-cell consists of a microscopriests were not allowed to marry, The plant-cell consists of a microsco-but might retain their wives if mar-ried before ordination. The lesser orders, deacons, etc., might marry only one wife, who must not be a wildow or have been a concubine, dealed usually possesses no obvious Gradually, as the clergy became ad-ministrators of rich endowments, the leging grew stronger that church one C. only, such are the protozoa among animals and the among plants. Most living forms are multicellular, but the history of every organism can be traced back to a single C. A single C. is the unit of life, and is capable of assimilating food material and growing, of changing its structure to adapt itself to particular conditions, and of reproducing other Cs. with which it may or may not retain some connection. Thus every C. owes its origin to some pre-existent C., it develops, fulfils its functions, and is at length destroyed, or divides into other Cs. On this theory, all that is needed to account for the origin of life is the existence of a single C., and knowledge of the structure and composition of the living C. is too inadequate to establish any theory of the particular chemical and physical conditions which may have brought

Cell

the original C. into existence.

Structure.—The animal C. possesses a body and a nucleus. The body cousists of proloplusm, an organic substance of complex constitution, containing the elements carbon, hydro-gen, nitrogen, and oxygen. It is a gen, nitrogen, and oxygen. It is a colourless viscous fluid, insoluble in water, and contains mingled with it ecrtain substances which are to be assimilated as food and waste products which will eventually be climinated: these substances are called metaplasm or paraplasm, and are not usually locked upon as part of the cell proper. The protoplasm of the cell-body is called cytoplasm, an intermixed with its substance it is possible to distinguish an clastic network—the cyto-reliculum, the meshes of which are filled with a clear, semifluid substance — cyto-lymph. . The nucleus is a spherical portion embedded in the ecli-bedy, and enveloped by a nuclear membrane; it contains nucleoli. The nucleus consists of a modified protoplasm called karyoplasm, which presents certain aspects of the structure of cytoplasm, containing a reti consisting of linin fibres, and a

darkly - staining substance chromatin. Many Cs. contain in additiou to the nuclcus certain rounded bodies called centrosomes, which become very distinct as reproduction approaches and probably play an important part in

process.

Differentiation.—Cells possess the power of devoloping ecrtain of their qualities which enable thom to per-

bacteria (stance, performing all the functions of movement, growth, direction. exerction, and reproduction by itself. In multicollular animals, it is necessary that there should be some division of labour, that is, that the Cs. should become different from each other in function. There occurs, thorefore, different degrees of differentiation, some become closely adherent to each other, forming the different kinds of epithelial tissues, some become altered in shape to form muscular or norve fibres, and so en. Certain of the epithelial Cs. devolop cilia or numbors of soft projections which are continually lashing to and fro; this produces a movement as in the mucus of the windpipe and alrpassages, which gradually works up the throat towards the stemach, carrying with it the dust which might Cortain otherwise injure the lung. Cs. specialiso, as it were, in secretory function, as the mucus-secreting epithelial Cs., the fat Cs., and those which develop into ova. Others take for their special function the reception or communication of stimull, as the nerve Cs. and nerve fibres. Nerve-Cs. are masses of protoplasm from which certain processes radiate, and nerve fibres may be looked upon as clongated nerve-Cs. The actual mechanism or chemical action by which stimuli are

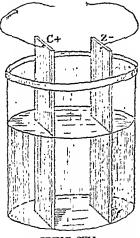
transferred from C. to C. is not known. Reproduction .- Colis may reproduce by direct division, amilosis, or indirect division, milosis or karpo-kinesis. In the direct form of division the Cs. are medially constricted and ultimately separate. The indirect form is a more complex process. controsome and the area in which it lles-the attraction sphere-divide into two parts which travel to opposite parts of the nucleus. The nuclear roticulum and membrane disappoar, and a convoluted cord of chromatin appears, which breaks up into a

3. or chromosomes. entrosemes subsefrom each other

called and travel to opposite poles of the nucleus; the chromosomos separate to the opposite poles, forming the daughter nuclei. See E. B. Wilson, Cell The inDevelopment Inherilance.

Cell, Voltaic, an apparatus generating electricity by chemical Prior to the experiments of action. the Italian physicist Volta, electricity was only known in a static form; that form their duties in the whole is, charges might be stored in Leyden jars or other condensers, and could be utilised to obtain an instantaneous effect. Volta showed that by placing two dissimilar metals in contact, a mild but continuous disengagement of electricity occurs; he attributed the

generation of the electricity to the and thus a continuous 'current' is mere contact of the two metals, but 'produced. The negative plate is chemical action was promoted by the fully affected chemically heen demonstrated that most chemigether due to chemical action is still tages. a matter of controversy. Of all chemical actions, the most productive of electricity are those occurring be-



SEMPLE CELL

C. may be arranged by partially imlittle chemical action is at first apparent except slow generation of hydrogen at the zine plate. If, however, and the plates are connected by a strip of lains a solution of copper sulphate, arogen comes off at the copper plate; the solution. A perforated copper and if convenient arrangements are exlinder stands in the solution, and made, the passage of a current of electivithin this a thin porous cylinder of tricity through the connecting step. tricity through the connecting strip or wire can be demonstrated. What happens is that negative electricity is produced in the zinc, and positive electricity flows through the wire from acid on the zinc is not deposited on the copper to produce equilibrium; the copper, but combines with the copper sulphate in the outer cylinder. happens is that negative electricity is but as the chemical action is con-copper sulphate in the outer cylinder. tinuous, so is there always a difference the sulphate is thus constantly being of potential between the two plates, used up, hence the necessity for extra

subsequent inquirers maintained that, always that which is the more powerbу perspiration of the hand. It has since liquid; thus copper is positive in a couple consisting of zinc and copper. cal actions are accompanied by elec- but negative in a couple consisting of trical disturbances, but whether such copper and earl on. Such a C as has effects as Volta exhibited are alto-been described has many disadvan-Firstly, the acid gradually weakens owing to the constant formation of zine sulphate, and therefore the action becomes feebler. Secondly, tween liquids and metals. In general zinc is often impure, and local chemit may be said that when a liquid acts cal actions are set up by reason of the it may be said that when a liquid acts cal actions are set up by reason of the upon a metal, the liquid becomes impurities; other small currents are positively charged and the metal produced, with a disturbing effect on negatively charged. A simple form of the main current. In the third place. the hydrogen adheres to the copper plate and not only prevents the per-fect contact of metal and liquid, but reacts with the dissolved zine sul-phate, and tends to deposit a layer of zinc upon the copper, when there would result, not two dissimilar, but two similar, but two similar, plates of metal. The last effect is called polarisation, and may he rectified by exposing the copper plate to the air, or by sending a current from another battery through in the reverse direction, or by simple mechanical brushing. Voltaic Cs. have another disadvantage where any great quantity of current is required; the cost of material effectively prevents them competing with the more economical dynamo system. Still. there are light services where they are found convenient, such as the ringing of bells, experiments in the labora-tory, lighting of moderate power (as in electric torches and the like), etc. They are then either used singly, when the wire from the more active plate becomes the negative terminal, and that from the less active the positive terminal; or in batteries, where all the negativo poles may be linked together into oue, and positive poles similarly arranged, or the negative pole of one joined to the mersing a plate of zinc and a plate of positive pole of the next, and so on, copper in dilute sulphurie acid. Very the free wires acting as the terminals.

metal laid across the top, a brisk kept saturated by crystals placed on chemical action is set up, but the hy-

which is in The hydro-

for some hours.

Grove's cell.-Donlell's C. in containing nitric acid surfoce. instead of copper sulphate, and platinum instead of copper. It consists of a flat rectangular vessel, partly filled with sulphuric acid; a U-shaped zine plate; a porous pot containing strong nitric acid and a thin plotinum foil. The disengaged hydrogen in this C. decomposes the nitric acid, giving off nitrous fumes. A Grove's C. has an

E.M.F. of about 1.96.

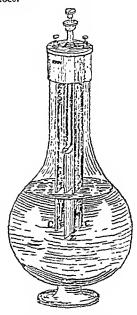
Bunsen's cell.—This resembles a Grove's C. in principle, the expensive platinum foil being replaced by a rod of gas-carbon. The C. consists of a glass vessel containing dilute sulphuric acid; within is a cylinder of amalgamated zine; within that a porous vessel containing nitric acid and a rod ! of carbon. When arranged in battery. clamps have to be used to engage the carbon rods to the succeeding zine eylinders. Such batteries ore much used on the contluent for experimental work. E.M.F. 1.91.



BUNSEN'S CELL

Smee's cell .- This is a one-fluid C. Smec. cett.—This is a one-nund c. which is tightly packed with mon-in which polarisation is prevented by mechanical meaos. The C. consists of the porous pot is sealed with pitch, a sheet of platinum or platinised only the top of the carbon rod pro-silver, ploced between two plates of inglass vessel containing the sal-am-

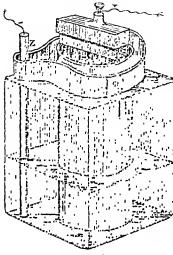
erystals. A Doniell's C. has an E.M.F. dilute sulphuric acid. The platinum of about 1.08, and remains constant is covered with finely-divided platinum, from which the hydrogen rises -This differs from a more readily than from a smooth



BICHROMATE CELL

Bichromate cell.—This consists of a zinc plote which slides up and down between two carbon plates dipping into a mixture of potassium bichromate and sulphuric acid, or chromic acid and sulphuric ocid. This solution rapidly octs on the zine, so that the zine plate is clamped above the surface of the liquid when the C. Is not in use. The E.M.F. is about two volts, but falls off after a while; for short experiments where a moderately high power is required these Cs. are very useful.

Leclanché cell.—This consists of a glass vessel about one-third full of o strong solution of sal anunoniac. positive plote is a rod of zine placed in this liquid: the negative plote is a rod of carboo placed in a poroos pot which is tightly packed with monmoniae solution. The C. quickly be- with a copper wire. Upon the disc is comes polarised, but with rest recovers, a layer of sawdust, on which rests a



LECLANCHÉ CELL

Dry cells are usually Cs. of the Leelanché type, in which the liquid sal-ammoniae is replaced by a paste or jelly consisting of sal-ammoniac and some absorbent material. They are very convenient and portable, and are well adapted for pocket electric lamps carried about on the person.

Latimer Clark's cell.—One form of this C. consists of two glass tubes joining to form a common trunk; the bottom ends are closed with a plati-num wire scaled in each, and the common neck is closed with a groundglass stopper carrying a thermometer. In one branch is mercury covered by a paste formed by mixing mercurous sulphate, mercury and sine sulphate, and in the other is an amulgam of zine Crystals of zinc suland mercury. phate are placed in both bulbs, and the whole vessel is filled with zinc sulphate solution. The C. is not cconomical as regards voltage, but it is remarkably constant in electromotive force, and is therefore used as a standard C., having superseded the Daniell's C. for that purpose.

Minotto's cell consists of an earthenware vessel at the bottom of which is a layer of powdered copper sulphate supporting a copper disc provided

comes polarised, but withrest recovers, a layer of sandless, whole is filled with adapted for such Intermittent service as the ringing of bells, etc. The C. is therefore a modification of a Daniell's C., the porous cylinder being dispensed with.

De la Rue and Muller's cell consists of a glass tube six inches long, containing half an ounce of silver eldoride, the remainder of the C. being filled with sal-ammoniac solution. tubo is closed with a vulcanite stopper through which a zinc rod five inches long and a silver wire six inches The hydrogen generated long pass. reduces the chloride to silver, which deposited on the silver E.M.F. about 1.03 volt. The advantage of the C, is its compactness.

Cellaria, a genus of polyzoans in the group Flustrina, which is typified by the genus Flustra. In appearance it resembles a seaweed, and it is com-

mon on British cousts. Cellarius, Christopher (1638-1707) (whoso real surname was Keller), German classical scholar, student at the universities of Jena and Glessen. He had taught in four symnasia, including that of Welman, hefore he became professor of history the university of Halle in 1693. His many

his Latin

Latinus, graphy, 1700, dld much to raise the graphy, 1700, dld much to raise the classical studies. Other of his manuals were among the first authoritles on the Samaritan language.

Celle, a tn. in the Prusslan prov. of Hanover, Germany, 23 m. N.E. of Hanover, on the Lehrte-Hamburg Rallway. The town was founded in 1292, and from the 14th century until 1705 was the residence of the dukes of Luncburg-C., a branch of the house of Brunswick. The ducal palace, which includes the court of appeal (oberlandesgericht), containing a fine Ilbrary, ls a Late Gothic building, commenced in 1485, but considerably added to at the end of the 17th cen-The town church contains the ducal burial vaults, and Sophia Dorothea, wife of George I. of England, is buried there, also Carolino Matilda, the divorced wife of Christian VII. of Denmark. Woollen yarn, tobacco, lisenits, umbrellas, etc., arc manu-factured. Pop. 21,400.

Cellier, Alfred (1844-91), an English musical composer. In company with Arthur Sullivan he was a chorister at the Chapel Royal, St. James. In 1862 ho became organist at All Saints Church, Blackheath. He then went to Belfast as director of the Ulster Hall concerts and conductor of the Phllharmonic Society. Returning to Lon-! don, be was appointed organist at St. Albans, Hnlborn, but in 1871 be went to Manchester to conduct at the Princes Theatre. For the next eight years he conducted at Manchester and at London theatres, at the same time composing operas and operettas; of his earlier works The Sullan of Mocha was the most successful, but he achieved his greatest success in 1886 in Dorothy, a comic opera, the libretto being written by B. C. Stephenson. He owed a good deal to his friendship with Sir Arthur Sullivan, but his

writing is remarkable for its delicacy and pleasing nielody. He composed

settings to Gray's Elegy, and Long-

fellow's Masque of Pandora. Cellini. Benvenuto (1500-71). Italian artist, fortunately wrote bis own life. It reads like the most extravagant of adventure tales. Born in Florence, he was expelled from his native city because of his implication in some civil broil. After living in Bologna, where he became an excellent flutist. be eventually arrived in Rome. Here he became court-musician to Pope Clement VII., made silver vessels of every description, and finally in 1527, according to his own account, actually

killed with his o

Bourbon who

and later Prince of Orang he had been pardoned for slaying his brother's murderer, ho killed by brother's murderer, ho killed by accident a rival goldsmith. But Paul III. set him free in 1534 as he wanted some dies in the mint engraved. Later, being falsely accused of embezzling pontifical jewels, ho was thrown into an oubliette of St. Angelo. The interession of Cardinal d'Este alone saved him from death. His sejourn at the court of Francis I. was cut short by his murderous attack on the plaintiff in a lawsuit. Finally C. returned to Florence, where he executed his famous bronze 'Perseus with the Head of Medusa' (in the

the most typical and unforgetable monuments of the Italian Renaissance.' Of his many other works of art there have survived to this day the famous silver salt cellar of Francis I. (now at Vienna), a medallion of his patron, Clement VII., and some gold medals. As an artist he has perhaps been over-rated, for his knowledge of anatomy was small and his designs often weak. But his versatile genius, which made him at once a goldsmith, sculptor, and engraver, led him also to write, and to day his fame largely rests on his unique and diverting anto-

biography. Mr. Symonds, who translated it into English, wrote that from its pages 'the Genius of the Renaissance, incarnate in a single personality, leans forth and speaks to us. Here the author narrates with a frankness that disarms the maralist the whole story of his amours, bis passionate devotion to art, his shameless self-worship, and his curious traffic with devils and portents.

Cellular Plants, a botanical term 11 in 11 classed below the Spermaphyta, but are much more highly developed than

the lowest forms. Cellular or Areolar Tissue, a loose connective tissue consisting of fibres running in all directions and forming meshes called arcolas. There are two kinds of fibres: white fibres which are soluble in boiling water to form a solution of gelatin, and yellow elastic fibres, insoluble in hot water. In the nores, insoluble in hot water. In the spaces of this tissue are found lamellar cells, flattened cells usually at-tached to bundles of white fibres; plasma cells, not flattened: granular cells, packed with deeply-staining

nd leucocytes which have od capillaries. a diffuse inflammation

tissue, caused by scptic invasion. The tissue may regain its healthy condition if treated by rest otherwise hot fomentations. suppuration occurs which may endanger neighbouring structures. Important variety is pelvic C. or parametritis, in which there is Inflammation of the cellular tissue about the uterus. This condition may be consequent upon abortion or delivery following operations. It may be anterior, when, if the inflammation proceeds to an abseess, the pus is discharged into the bladder, vagina, or groin. Inflammation of the posterior tissues may cause fixation and tersion of the Loggia dei Lanzi, Florence), under uterus. Remoto parametritis is characterised by absecsses appearing some distance from the seat of the disease. Pain should be treated by anodynes, and an effort should be made to rednee the inflammation by careful diet and bot counter-irritants. When an abseess is formed, it should be localized if possible, an Incision made, and the pus drained off. After-treatment includes a prolonged period of rest.

Celluloid, Xylonite, or Pyroxylin Plastie, an artificial colloid prepared from a mixture of nitrocellulose with camphor. It was first prepared by Parkes, of Birmingham, and Spill in England in 1856, but the Improve-ments in the manufacture introments in the manufacture intro-duced by Hyatt, of Newark, New Jersey, revolutionised the industry C. has not yet been found with and made it predominantly Ameri-sufficient success to become a comby the leading British manufacturers, lat ordinary working temperatures and the British Aylonite Company. The is plastic at 75° C. its hardness nitrocellulose is first made from sub- and elasticity at ordinary temperacomposed essentially cellulose, such as rags or, more particularly, tissue paper. Shreds or strips of the latter are steeped in a combined bath of sulphuric and nitrie acids of such composition as not to produce the explosive gun cotton. Nitrocellulose is thus produced, and great pains are taken to extract the excess of acid, the presence of which produces deterioration in the final product. This is done by thorough washings, and the water either pressed out by hydraulie pressure or replaced by alcohol. Drying Cellulose, an organic substance by heating would be too dangerons secreted by the protoplasm to form owing to explosion. The next process the primary cell wall of all plants owing to explosion. The least property of the calcast of nitro-but it is not essentially present in an cellulose and add to it eamphor dissuccessive layers of the cell-wall after solved in ethyl alcohol in the pro-thickening has taken place. It is a portions of two of nitrocellulose or pyroxylin, with one of camphor, and the whole thoroughly mixed up in a kneader. In some cases flake camphor turns blue whon treated with suise added to the pyroxylin and the phurie acid and iodine. C. is romark-mixture in boxes sprinkled with able for its insolubility, and only an alcohol until it settles is

dough. At the same tin substances and a fixing are added, and the whole geneous. It is then rolled

geneous. It is then rolled in heated rollers and hydraulic pressure machines, and a cake produced of the material control is well-known to us in a very pare talning a quantity of the liquid solvent, which must be removed by and pare keeping the substance in heated rooms for prolonged periods. When the man it is not nearly so casy of the case of the cas rooms for prolonged periods.
all is removed shrinking has occurred,
all is removed shrinking has occurred,
and the substance is ready for working in various processes. C. is buff in colour, but may he bleached by means of bleaching powder or other a stabiliser or fixing compound than in the other varieties since the required that reacts with this acid to Indies, vary in height from 6 inches five products of reaction that will to 2 ft., and the colours from red to the material, and it is white. found that coumpounds of area serve this purpose very well. C. brought in contact with a flame burns more terranean. The flowers are nearly odour of camphor about it, except in species. the very best produced, especially Celsius, Anders (1701 - 44), a when It is eratched. Non-inflammable Swedish astronomer born at Upsala.

The name X plouite is given to it mercial product. It is non-explosive of tures, together with it-io vulnerability, have led to its wide application in articles of daily use. Thus, for knife haudles, piano keys, combs. and mirror backs, it is universal, and its ease in working up have led to the imitation of such natural products as ivory, horn, and bone. Imitation marble is made by pressing together plates of differently coloured material, while imitation tortoiseshell can be and is much produced by pressure and heat on yellow plates between yellow coloured with brown.

Cellulose, an orranic substance secreted by the protoplasm to form

as C.H.O.: ion is that it

digestion as it is in ruminating animals.

Celosia, a tropical and temperate genns of Amarantacere, cultivated in It is coloured by mineral colours, flattened, and gives the plants the while coal-tar dyes are employed for colouring the transparent varieties, in the latter there is more varieties. now become a commoo characteristic of the plants through cultivation. C.

ornaldly than paper, camphor distills regular, and there are only four off, and a good deal of free carbon is stamens. C. orientalis and C. sub-evolved. There is always a slight landa are the most noteworthy

He was professor of astronomy in the treatment of certain diseases. university in his native town from method in dealing with disease is 1730-1744. He travelled much in apparently to allow nature to take its Germany, Italy, and France. In 1733 own course, though he also advises a while in Nuremberg he published free use of the knife on occasions. He numerous observations of the aurora also wrote a treatise on surgery which borealis which he had made himself. points to the fact that many of the He invented the Centigrade ther most delicate and serious operations mometer.

astronomer, norm as Jahm, and astronomy at Upsala, Celsus P. Juventius, an Epicurean Celsus P. Juventius, and Epicurean Celsu maties and astronomy at Upsala, where he discovered the Helsing

at Upsala.

provost of the cathedral. He was a confuted this idea in his work, Confra great botanist, and made himself Cclsum. famous by his researches in connec-Bible. He was the patron and in-structor of Linnæus.

famous for his brilliant style and keen criticism. He died at Lund.

Celsus (c. 178 A.D.), one of the earliest opponents of Christianity, was the author of The True Word served for us in fragments by Origen, who undertook to refute C.'s arguments. The heathen's attitude may be somewhat Platonie, with a ten-deney towards Epicureanism, but essentially it is that of the essentially it is that of the man of the world whose religion is mere agnos-ticism, and who has I rilliance without depth. He upbraids the Christians for their absurd eredulity, their party schisms, their exercism of demons, and for the disreputable character of the Guadalquivir's sources. and slaves.

Hís were performed in his time. Among Celsius, Magnus (1621-79), Swedish his works he also left a pharmacy astronomer, born at Alfta, Helsing-setting out many very fine pre-

where he discovered the Helsing philosopher who lived in the 2nd runes and deciphered them. He died century, during the reigns of the Antonines. He is believed to have Celsius, Olof (1670-1756), the son been a Roman and a friend of Lucian of Magnus C., born at Upsala in He is supposed to have written an July. He held the post of professor attack on Christianity called Logos of theology and Oriental languages at Alethes ('True Discourse'), which the Upsala University and was also a is not now in evidence by Origina the Upsala University, and was also a is not now in existence, but Origen

Celt (from Low Lat. cellis, a chisel). tion with the plants mentioned in the has been used by both English and French archaeologists to designate the structor of Linnæus.

Celsius, Olof, the Younger (171694), Swedish historian and poet, son
of Olof C., born at Upsala. For
some years he held the appointment
of assistant librarian at the Upsala
University, where he became professor of history in 1747. Later he
entered the church and went to Stockholm, and in 1777 he was made hishop
of Lund. He was one of the original
members of the Swedish Academy.
He wrote among other works a hisHe wrote among other works a hisshistory of Erie X1V. (1774), and was
history of his brilliant style and keen stone and bronze axe beads used by ridge, or elevation, between the blade and the part to which the handle was fitted, and a socket or hollow for the handle. Cs. served as ares, chisels, was the author of The True Word adzes, etc., and were superstitionaly (Αληόης Λόγος), which has been pre-regarded as 'thunderbolts.' or as implements endowed with strange curative powers.

Celtiberi, a powerful people of ancient Spain, said to have sprung from the intermarriage of Spanish aborigines (Iberians) and Celtie invaders from Gaul. They inhabited an inland district (approximately the present S.W. of Aragon and N. and E. of Castile). Celtiberia, however, was often used to include country right to their proselytes, who are rogues, were one of the bravest and noblest poisoners, thiefs, and idlers, women peoples of the peninsula. Subdued by Hannibal, they served as Carthaginian Celsus, Aulus, or Aurelius Cornelius, a Latin writer on medicine and surkery. Little or nothing is known of his life. His writings on medicine consist of eight books, and contain a discussion on the history of medicine. They also deal with the subject of diet and general principles. They joined Sertorius later, but after of therapeuties, and consider the See Diodorus Siculus: Strabo, librarian to Maximilian I.

the iron age decoration in the British Isles, may, for historical purposes, be divided into two periods: the pre- Celts, the generic name of an Christian, extending from 250 E.c. to ancient people, the predominant 600 a.D., and that which followed the introduction of Christianity, and attained its highest excellence in the 11th or 12th centuries. In the earlier was bronze, and the chief fields of Celtic. The dark-complexioned people decoration were shields, scabbards, bracets, harness mountings, and bracelets, harness mountings, and bracelets, harness mountings, and bracelets, harness mountings, and bracelets, harness mountings, and bracets trappings. Reponse work of France, Great Britain, and Ireland lower afterwards riveted tongues of the races of W. Scotland low and high relief, done on thin plates which were afterwards riveted tongues of the races of W. Scotland lower into position, has been found through out the British Isles in the heds of the word of dark peoples. The Celtic The dark properly they are into position, has been found through the word of dark peoples. The Celtic More properly they are dailed to dark peoples. The Celtic More properly they are dailed to dark peoples. The Celtic More properly they are into position, has been found through the word of dark peoples. The Celtic More properly they are into position, has been found through the word of dark peoples. The Celtic More properly they are into position, has been found through the word of dark peoples. The Celtic More properly they are into position, has been found through the word of dark peoples. The Celtic The dark complexioned positions, and Ireland are commonly termed tongues of the races of W. Scotland and Ireland are commonly termed tongues of the races of the word of dark peoples. The Celtic The dark complexions, and Ireland have been called 'Blae's C., while the tongues of the races of V. Scotland and Ireland are commonly termed tongues of the races of the word of dark peoples. The Celtic The dark complexions, and Ireland are commonly termed tongues of the races of the tongues of the tongues of the tongues of the word of dark peoples. The Celtic More properly they are larged to the word of dark peoples. The Celtic More properly they are larged to dark peoples. The Celtic More properly they are larged to dark peoples. The Celtic More properly they are larged to dark peoples. The Celtic Mor ment, such as fretwork, with involvepatterns, diagonal frets, and onliquines; interlaced work and diapers c'lines; interl paranism gave way before the new religion. And further, there were now bells, croziers, shrines, churches, and above all the MSS, of the gospels and psalters as fresh openings and en-couragement for the C. artist. The Book of Kells in Trinity College Dublin, and the Lindisfarme Gospels, in the British Muscum, with their heautiful dispracted proper their beautifully illuminated pages, their elaborated patterns of an almost inexhaustible variety, offer the finest illustration of the art of this period. But the enamelied metal work which will don't have been applied to the period. still flourished is nobly represented by the Ardach Chalice, and the Tara and Rogart Brooches and the Cross of Cong are fine examples of filigree and chas-

iii.; Hübner's article in Pauly-Wis- whilst be was in his library that he sowa's Realencyclopadie, iii., 1836-93. discovered the map of the Roman Celtic Ornament, which grew out of empire published by Peutinger Among his own publications were Odarum libri iv. (1513).

element in Central and Western Europe before the rise of Roman power and the influx of German tribes. Great If the or 12th centuries. In the earlier confusion has resulted from mac-stage the metal most commonly used curate use of the words Celt and was brouze, and the chief fields of Celtic. The dark-complexioned people

Bituriges (a name still surviving in Berri) were the chief tribe. Others were the Arreni, Senones, Ambarri, and Ædui. These Gauls are often also called Gimbri. The most dreaded tribes came from the Baltie and the Northern Ocean; bence the peoples now called Tentons were named C. The beight of their power was about 400 B.C. In the 3rd century they had spread as far as Greece and Asia Minor. Their raids were the terror of antiquity, but Casar and Angustus reduced them to inactivity. Under the latter, Galatia, where numbers of C. had settled, became a province. They founded no lasting state alone They founded no lasting state alone and preferred a pastoral to an arricultural life. Their strength made them and humanist, attended the lectures for Agricola at Heidelberg, and there founded a literary society. After travelling alroad and working to spread German culture, he accepted last they consider the hear of poetry and eloquence at Vieuna, and became than the continental C. During the used for building purposes are Roman 400 years after Cæsar's expedition C., Portland C., and the Plaster of to Britain, they became closely allied Paris Cs. Those prepared from pitch with their Roman conquerors. They are known as Bitumenous Cs., and augury, exorcism, etc. The clan system was deep-rooted. They had system was deep-rooted. They had musical, poetical, and literary tastes, and were distinguished for dramatic talent. Reading nuseum has interesting relies of the town of Silchester, an old Celtic centre. The Celtic language, strictly so called, is rapidly disappearing. The Bretons are the only continental people who have retained it. The group of languages commonly known as Celtic below to the Indo-European family. guages commonly known as Celtic-belong to the Indo-European family. They now comprise Welsh, Breton, Irish, Scottish, Gaelle, and Manx. Cornish has died out. These are in close relation with the Italic and Germanic croup. See Brinton, Races and Peoples, 1890; Ridgeway, Early Age of Greece, i.; Oldest Irish Epic; Ripley's Races of Europe, 1893; Riys, Celtic Britain, 1882; Celtics, Follians, 1901; UArbois, Les Celter, Rhys, Cellic Britain, 1882; Cellic, Follidor, 1901; UArbois, Les Celles, 1904; Evans, Coins of the Ancient Britans, 1864; Beddoe, Baces of Sritan, 1885; Sergi, The Mediterranean Roce: Prichard, The Eastern Origin of Cellic Netiuns, ed. Latham, 1857; Keane, Man, Pad and Present, 1899; Nicholson, Kellic Researches, 1904; Deniker, Roces of Man, 1900; Gnest, Origines Cellica, 1883; Elton, Origins of Enclish History, 1890; Origins of English History, 1890; Encyclopadia Britannica,

with their toman conquerors. They are known as Brumehous Ca, and wore a sleeved blouse and trousers, then there are glues, pastes, etc. used fitting close to the ankle, with a for small operations. We shall first tartan plaid across the shoulder deal with the building Cs. The profestened by a brooch, much like the cess of manufacture of these consists costume of Highlanders in Queen of the formation of slifectes and anne's time. They often had gold or aluminates of calcium by the intense instence by a brocch, much linguise cess of manuacture of these construc-costume of Highlanders in Queen of the formation of slicates and Anne's time. They often had gold or aluminates of calcium by the intense bead ornaments, and enamel on their heating of lime with clay, the first armour. The C. of Gaul and Belgium, being derived from chalk or lime-wore plated armour or chain-mail; stone by driving off the carbon coats. They could work various dioxide. It has been shown by New-metals (copper and iron), and dis-covered bronze. Among their weapons of C. is triculeium silic. te (3CaO. SiO₂). covered bronze. Among their weapons of C. is tricalcium silic 14 (3C20, S0). were swords, dargers, bows, pikes, and that dicalcium aluminate is the slings, and javelins. They used two-wheeled charlots in war with a bronze position is found to be about 22 per sorthe projecting on either side, and cent. of SiO. silica, 7 per cent. of were notoriously good seamen. They and small quantities of iron, soda formed magical ceremonies, which magnesium, and sulphuric acids survived in the forms of the 'ordeal,' Roman C. may be termed a progress. Roman C. may be termed a natural C. as opposed to the artificial nature of Portland C. It was unknown to the Romans but was much the series of the first of the cheaper Portland C., which has ousted it from its superior position. It is prepared from the nodules known as septaria which are found in the snail, especially in the Isle of Shepper and its neighbourhood. It is similar to hydraulic lives being only in to hydraulic lime being quick in setting, and owing to the fact that it sets rapidly under water is used ex-tensively in hydraulic works, such as breakwaters, piers, eca-walls, etc. The rodules consist of about 20 per cent of siles and 15 per cent of alumina. They are calcined to drive of the Portland C. is the most widely used C and is manufactured in enormous quantities; America takes the lead in this respect. It is, unlike Roman C., an artificial product pre-pared by the admixture of chalk and pared by the sometime of chair and clay. It was invented by Joseph Aspden, of Leeds, in 1824, and was primarily an Eurilish industry, the seat being the lower reaches of the Thames and Medway, where mud was plentiful, and this locality rill produces the creater part of the C. made in Britain. The process of manufacture has now reached a high Celyphus, a renus of dipterous instate of perfection, and is divided sects which resemble little beetles into three parts: (1) the preparation rather than two-winged files on of the raw materials: (2) calcining the sects which resemble little bestles into three parts: (1) the preparation rather than two-winged files on of the raw materials: (2) calcining the account of the enlarged scutellum clinker; (3) crushing and grinding which hides the reduced abdomen, the finished product. There are C. obsclus inhabits Java, C. sculaus: two processes, the "wet and the the East Indies.

Cement, a material used for binding surfaces together or for uniting 'dry,' which are used according to the grantees together or for uniting 'dry,' process being used where particles in one mass. There are many the materials are too hard for the varieties manufactured in various 'wet' treatment. The original ways according to the purposes to incthod is the mixing of river mud which it is to be put. The chief kinds and soft chalk: the wet is the

sists of a hasin of brick or masonry with a masonry pier in the middle. On the latter is fixed a vertical revolving shaft to which horizontal arms are attached. From these hang harrows of vertical iron hars which dip iuto the materials mixed with water and rotate with the shaft. This thoroughly mixes up the sludge and breaks up any of the lumpy stages, first there is a coarse grioding parts. The product is known as sherry and passes out of the mill through a grating of such division as to let pass any particles under a tetrain fineness. Stones accumulate at the bottom of the mill basin and can be easily removed, while any hard lumps of chalk must be ground hard lumps of chalk must be ground by rollers. In the dry process the materials are dried before admission to the mixing, and various methods of drying are adopted. Briefly, these are the drying drum and the drying the C. and three parts sand, as isgenerally used. The C. is gauged with as little drying are adopted. Briefly, these are the drying drum and the drying the complete water as possible and moulded into briquettes with a waits section of kiln. The first consists (**) water and rotate with the shaft. kiln. The first consists (cylinder or drum, throu strength, is measured in materials are gradually machines. This is done at the whole is heated. In the interior space day, the seventh, fourteenth, ctor, is a furnace while the materials pass the strength gradually increasing. is a furnaco while the materials pass through the space between the two Full particulars of the methods emconical brick walls, damp being fed In at the top and dried material taken out at the bottom. As the kiln is kept full the process can be kept continuous in operation. The materials before drying are crushed in a ball mill, which consists of a rotating

drum containing steel balls which, by means of steps, drop across from side to side. After crushing and drying the materials must be mixed in the right proportions, and this is done in mixing bins. Then the mixed materials are passed through a tube mill and thoroughly ground. mill consists of a long tube revolving on its axis and filled with hard flint pebbles, the linely-divided powder passing through gratings into a cusing. After either of these processes the material is ready for calcining. This can either he done with the materials in tho form of hrieks, as resulting from the wet process, or powder from the dry process. The best form of kiln is the rotary kiln, although others are sometimes used. It consists of a long cast-fron tube lined throughout with firebrick and slightly inclined to the horizontal. The material enters at the upper end and the blast or burning material at the lower. A chimney at the top serves to create a blast and earry away the gaseous products of combustion. The whole rotates at a fixed slow speed. The usual method

natural process, and this will be which is carried into the kiln by an described first. The materials are air blast and on reaching the heated mixed in a 'wash mill 'which con-portions takes fire and gives out an portions takes fire and gives out an intense heat. The final process con-sists in the grinding of the clinker product. This is very important, since it is found that the finer the grinding the more satisfactory and strong the

, and the tensile strength, or ployed in testing and the results which should be found can be seen in a report issued by the Engineering Standards Committee in 1904, to be ohtained from their offices, 28 Victoria Street, S.W. Wo now come to the plaster Cs., which are of various kinds, but have the most important constituent ln common. This is gypsum or sulphate of lime, which in the dehydrated state is known as Plaster of Paris. Cs. of this class are used in internal work, being partly Plaster of Paris is manusoluble. This factured as follows: The gypsum (CaSo, 2H, O), found in many localities, especially in the clays of ancient river basins, is deprived of a portion of its water of crystallisation by heat, and powdered very fine. It is then very eager for water, and on its addition rapidly crystallises in small hard crystals in which the water is taken up. Thus a hard mass is produced, which is found useful in internal plastering and uniting metal with glass. It is fairly hard but not sufficiently so for places liable to be knocked about, such as skirtings, dados, etc., and special compositions are made for this purpose. Among these are Keene's C., which is made by soaking the plaster of Paris io strong alum solution and then recoloning it and Parism C. treated in calcining it, and Parian C. treated in a similar way with strong solution of boraz. Another class of Cs., and a of calcining is by means of coal dust class of increasing importance, is that

is a natural product which, heated and mixed with small particles of stone, forms a durable and casily worked surface. The surfaces of main and other roads are covered with a layer of pitch mixed with ground shale or sand and rolled, which in addition to being free from dust is easy to lay and keep up. Tar macadam has, undoubtedly, a great future before it in this respect. C. of this sort is also used to render walls The last class of C. ls damp proof. that consisting of various adhesives used in small quantities, such as gums, glues, pastes, and so on. Some

have particular Thus work. resin obtained of the America:

property is its transparency when set. which makes it eminently useful in optical work for cementing together glass surfaces. Paste is used for cementing paper and is made from flour or starch, the flour being rubbed up with water and boiled. The addition of water before boiling improves the quality, making it thinner and stronger. In large quantities C. is used for wall papering and bill sticking, and can be made by mixing a quartern of flour with a quarter of a nound of alum into a creamy consistency with warm water, and then pouring on boiling water and stirring. cypress trees. Campo Santo at Pisa As this paste is liable to become in Italy is the most famous burialmouldy and p

useful and ch . . used by instrument makers for Jerusalem. 2. Also the name of an cementing glass to metals. It is made by melting five parts of black resin Troad, probably situated some diswith one part of yellow wax and then stirring in gradually one part of red ochre in fine powder and previously tory of Asia Minor). well dried. Mastic C. is made by mixing twenty parts of well-washed and sifted sharp sand with two parts of btharge and one of slaked lime. This is mixed with linseed oil, which sets by its property of absorbing oxygen. It is used for repairing stonework,

Cement Stone, the name given in geology to a layer of rocks which exist at the bottom of the carboniferous deposits of N. Britain. It has the

h or brackish deposits of the Old Red Sandstoneand the marine

and . ditio.

depo

large inland lakes there was a sub- stewards.

composed of Cs. with tar or pitch as sidence of the land and the C. Ss. their principal constituent. Asphalt were formed in large shallow marino C. S. forms an stone, being exlakes or deltas. excellent building tensively used in Edinburgh for that purpose.

Cemetery (from the Gk. κοιμητήριον, a sleeping place), a piece of ground which is specially set apart for the burial of the dead. The name was originally given to the underground burial-places of the Romans. The Greeks always mado their Cs. outside the cities, and the Romans placed their tombs gonerally by the side of the public roads. In the early ages, the Christians used to hold their religious ecremonies in the Cs., and It is believed that this fact brought about the practice of always conseerating the ground that was to be used for the dead. In modern times it has become the rule for each sect or denomination to have their own burial-ground, and each C. is conseerated according to the formula peculiar to the sect to which it belongs. Sometimes one C. is allotted to various denominations for the convenience of overy one living in that district. In Germany the Cs. at Munich and Frankfort are called Leichenhauser (houses of the dead), and are huilt so as to minimise the risk of premature interment. Turks make the most picturesque Cs., as they are generally surrounded by

1. (now Kenkri) was a 5. side of the isthmus of ie Peloponnesua, Greece. this port that St. Paul hen he left Corinth for

Cenci, Beatrice (1577-99), an Italian girl, whose fame rests on the tragic and sordid character of her family history. She was the child of Fran-eeseo C., a wealthy, passionate man, who proved a dissolute liver and a harsh father, and of Lucrezia, his second wife. She was involved in a plot to murder Francesco, who was assassinated whilst he slept, and after torture and confession was beheaded with her mother in 1599, Shelley's magnificent tragedy, Cenci, is historically lnaceurate, but has nevertheless made Beatrice one of the most heroic and tragical of women. Modern research has re-vealed the fact that sho had an illeformation of the Old Red Sandstones in gitimate child by one of her father's

Cenis, Mont, a pass, 6893 ft. high. on the border between the Graian and Cottian Alps in Savoy (France). The famons Mont Cenis tunnel (opened in 1871) is not really over the pass itself, bnt lles below Col de Fréins. 17 m to The railway the W. It is 8 m. long runs through the Iscre valley from Chambery, and after crossing the valleys of the Arc and Maurienne reaches Modane (61 m. from Chambery). One terminus of the tunnel is Bardonneche, some way above Oulx, which is 18 m. distant from Modane. The carriage road, built by the Emperor Napoleon between 1803 and 1810, ascends the Arc valley for 16 m., from Modanc to Lanslebourg, going down from the heights by way of the Cenls valley to Susa (37 m. from Modane), where the road meets the railway. Lanslebourg is only 8 m. from the hospice near the summit of the pass. The Little Moot Cenis superintendence gradually spreading (7166 ft.), which is supposed to be to private as well as public life; 'Hannibal's Pass, 'connects the main (3) administration of the state finances, pass with the Etache valley on the including regulation of tributing French side.

Cenobites, see Conontres.

Cenomani, an offshoot of Gallia Celtica, an ancient division corresponding to the modern Maine in the department of Sarthe. This peoplo helped the great rebel Vereingetorix in the rising against Casar in 52 B.c., constituted nuder Augustus a civilas stipendaria of Gallia Lugdunensis, and in 400 B.C. invaded Italy and occupied the territory of the Etruscans they conquered, making Verona and Brixia their chief towns. During the Punic wars they were faithful allies of Rome.

Cenomanian, the name given by Freoch geologists to the lower portion

of the Upper Cretaceous period. Cenotaph (Gk. κετός, void; τάφος, a tomb), a monnment or memorial stone to the memory of some one whose hody lies elsewhere. Cs. are

most common for drowned persons. Censer (from Lat. incendere, to kindle), a vessel used in both Christian and pagan places of worship for the burning of incense.

Censorinus, a Latin grammarian and also a versatile writer. Flourished about the middle of the 3rd century He wrote a book called De Accentibus, which has been lost, and he also wrote a treatise called *De Die* action of others; to critics of literary *Matali* in the year 238, and dedicated or artistic work, and judges appointed to Quintus Cacrellius. The work is by government to examine plays or extant, and deals with various sub-jects, such as astronomy, music, religious rites natural history of man, religious rites, natural history of man, ete., etc.

Censors (Lat. censere, to assess,

time of Servius Tullius. After expulsion of the kings (c. 510 B.C.), the office was held by the consuls, but special magistrates were again appointed 443 B.C. Till 351 only patricians were censors; the picbeian Mareus Putilus was then chosen (Livy, vii. 22). In 339 Lex Publilia enacted that one must be a plebeian. In 131 both were plebeian for the first time. They were elected on the same day in 'Comitia Centuriata,' with a consul presiding. The term of office. at first five years, was later limited to eightcen mooths. This magistracy was considered the highest dignity in the state, except dictatorship. ehief duties were three: (1) original taking of the census, register of citizens, and their property (held in Campus Martins); (2) the regimen morum (regulation of morals), most dreaded of all their powers, this οť vectigalia.

leased out to Aulerci, a people who inhabited the taxes). Upkeep of public huildings and care of the treasury was en-trusted to C. Their powers were vast and undefined; only his colleague's intercessio (veto) could overrulo a C.'s decisions. C. could degrade men from or promoto them to the rank of senator or knight at choice, until Sulla's legislation, 81 u.c. They might class citizens with wrarii with no vote. They introduced various sumptuary laws. In 265 a law forhade re-election to censorship. In 338 they drew up the list of senators (lectio sen nota cense

name on

of one pair of C. could remove it. Augustns exercised censorial powers himself as consul (8 B.C. and A.D. 14). Claudius, Vespasian, and Domitian revived the office. Trajan and later emperors acted as C. without actn-: Mommsen,

; Do Boor, Dictionary

of Antiquities; Becker, Handbuch der Römischen Alterthümer, vol. ii., part 2; Niebuhr, History of Rome, ii. 2. The name is now extended to one who controls or censures the action of others; to critics of literary

indgo): 1. Originally the name of Censorsbip of the Drama, a power two Roman officials, dating from the that originally sprang from the royal

were subject to the control either of the Master of the Revels or the Court of Star Chamber. According to writers on the constitutional history of England it is not certain at what date the Lord Chamberlain first began to exercise a direct control over plays, but the records of the Lord Chamberlain's office show that as early as 1628 that functionary either personally or through his subordinate, the Master of the Revels, licensed and exercised a general control over dramatists. From being an emanation of the royal prerogative his powers ultimately, in 1737, became statutory. The object of the Act of 1737 was mainly political, n fact which is sufficiently indicated by the preamble to the Act, which recites that its purpose personal, the was to restrain the political and personal satire which was then prevalent the triumph

the passing of this Act the Lord Chamberlain appointed a licencer or examiner of plays, with a salary of \$400 a year, and that office has continued in spite of criticism down to The Act of 1737 the present time. conferred an unfettered power of yeto on the Lord Chamberlain, and Under the Theatres Act, 1843, the Lord Chamberlain has power: (1) to prohibit the performance of beensed stage plays anywhere; (2) to license theatres in certain places; (3) a practically arbitrary right to ban vague, and 'the only existing statu-tory authorisation 'of this particular aspect of the Lord Chamberlain's powers. Under this Act all new plays and every addition to nn old play must be sent to the Lord Chamberlain by the theatre manager who proposes to produce it at least seven days of before it is intended to be performe accompanied by a fee for perusal to not more than two guineas. TI Lord Chamberlain has local juri diction to license all theatres in t.

prerogative. The C. of the D. has cities of London and Westminster, in existed ever since the rise of the Eng-Finsbury, Marylebone, the Tower lish drama in the period of the Hamlets, and also in Windsor and Renaissance. In the time of Henry other places where there is a royal VIII. court entertainments were residence. According to the report of supervised by a Master of the Revels, the Joint Committee of 1909 the and from that date to the middle of county councils license places to be the 17th century, when all theatres used in their counties, and the uni-were suppressed by law, playwrights versity authorities of Oxford and Cambridge have a veto as to the performance of plays within their respective jurisdictions. Lineally descended from the control of court festivities vested in the Master of the Revels, legally owing its origin to political exigencies as set out in the Theatres Act, 1737, the C. of D. really has its roots deep down in the civil and religious intolerance of a bygone age. The social conditions, which in reality or apparently necessitated an auto-cratic exercise by the Lord Chamberlain of his supervisory powers over the drama, were also conditions pre-eminently iocompatible with even the bare idea of liberty of discussion, far less of the constitutional freedom of the press. The kingship as yet was

on the stage, which the government eause in the early Stuart period, and of the which such traditions was to be tolerated was fc and socially regarded in the light of rogues and vagabonds, living rather by the charity of their 'masters' than from any title to their earnings. So diametrically opposed are modern ideas to such institution of

hardly likely !

it was only when the incurred act, rears opposition to it was on up very gave any indication of the principle open or sustained character, and the reto was to be exercised, three joint committees, in 1853, 1866. and 1892, respectively pronounced succinctly in favour of its continued existence. The year 1908 and snoceeding years, however, saw a remarkable manifestation of hostility to the C. of the D. on the part of a any stage play which in lise opinion number of distinguished persons in is contrary to 'good manners, dethe literary world, the exciting cause corum, and the preservation of the of which was the refusal by the Lord public peace, words which the recent Chamberlain, on the advice of his Joint Committee characterised as examiner of plays, to license three Chamberlain, on the advice of his examineer of plays, to license three plays—Woste, a skit on An Englishman's Home, and Monna Vanna. As a result of widespread criticism of his action in the press, a joint committee of both Houses was appointed in 1908 to inquire into the working of the C. of the D. A considerable number well-known writers, actors, and

of the C. of the D. A remarkable to him, unless he considered it inin advising the Lord Chamberlain on the various plays submitted to him he | proceeded on no principles that could be defined, but based himself on eustom, and followed the precedents of the office: his practice was to refuse a licence where plays were avowedly adapted from the Seriptures, contained political allusions likely to leopardise friendly relations with a foreign state, or had an immoral tendency. Since his Inception of office in 1895 the examiner said that some 7000 playshad been submitted to him. of which 43 were refused licenees, though 14 of these were subsequently reconsidered and the licences issued; the majority of his refusals were on grounds of immorality. The figures! given by the examiner, however, in no way represented the true measure of his activity, for in countless instances plays were only licensed after modifications to sult objections. The absence of principle or certainty in the quasi-judicial functions of the tian, and other plays which, though dissimilar in treatment and action, yet contained parailel incidents. The gravamen of the dramatists grievance was that the suppression of a play before production was an excessive use of executive power, and cast a stigma on the profession of the dramatist; and that it was an anomaly to rice the dramatist; and that it was an anomaly to place the drama under restrictions other than those imposed by the ordinary law of libel and blasphemy. The actors, on the other hand, feared that if the C. of the D. were replaced by magisterial and police control, an element of

feature in the evidence was the ad- decent, offensively personal, calcumission by the examiner of plays that lated to do violence to the sentiment of religious reverence, to impair relations with any foreign power, cause a breach of the peace, or to conduce to crime or vice, as ropresenting in an invidious manner some living person, or some person recentiv dead. (ii.) That it should be entirely optional to submit a play for licence, and legal to perform an unlicensed Where any unlicensed play piay. contravened the stated bounds the matter should be left to the Director of Public Prosecutions. In spite of repeated questions in the House, and a petition to the king signed by sixty dramatists and a number of representatives of repertory theatres. dramatic societies, musicians, artists, and novelists—a list abundantiy representative of the intellectual and artistic contemporary talent of the kingdom-nothing has yet (March 1913) been done to give legislative effect to the proposals of the Joint Committee. It is hardly to the purpose to condemn the apparent supine-ness of parliament. The whole quesreader was exemplified by the refusal ness of parliament. The whole question license Mrs. Warren's Profession, then it is highly controversial, and the Mraking Point, notwithstanding the unvarying opposition of the artistic passing Die Walkure and The Christen and The Christian and the artistic passing Die Walkure and The Christian and The Christian and The Christian and The Christian artistic action are which sees in the entire which sees in the contract of the christian and the christian artistic and the christian artistic and the christian artistic and the christian artistic artistic and the christian artistic and the christian artistic artistic and the christian artistic art acted drama a jezitlmate vehleje for the incuication of true revelations of life, however sordid, however gloomy, to the more ordinary materialistic temperament, which, possibly secretly fearful of truth, regards drama as a means merely of light rejaxation from the cares of life, in which nothing but humorous. or optimistic scenes and incidents should over be represented. Some plays, besides those already alluded to, for which licences have been refused in recent years, were Mr. Laurenco Housman's Pains and Penalties, M. Henri Ba-taillo's La Vierge Folle (subsequently troduced in licensed on the recommendation of in constant of numbers of persons who were not like Pily of It (by Mr. Laurence directly concerned with the ethics of Cowen), and Hirodeade (licensed subthe dramatic art. The report of the licensed produced only at the competition.

to be met Observes i drama the absoiute. ail our ice the tolera thinks to progress tru (i.) rem dut

committe.

cussed before the Joint Committee, was appointed by the Lord Chamberlain to be joint examiner of plays with Mr. Redford, who, bowever, resigned

Censorship of the Press, see PRESS. Census, an enumeration of the inha-

:C. meant 1ade usually every five years by every Roman citizen before two magistrates called censors, of his own name and age, and of the name and age of his wife, together with a statement of the nunithe number of men capable of bearing Taxation depended on the arms. results of the Roman C. Livy states that it also showed the amount of a man's debts and the names of his creditors. Roman eitizens were divided according to the valuation of their property at the C. into six

elasses, each class containing a num-ber of 'centuries' or hundreds. As

the richer classes contained far more

and Scotland was made in 1801. The topics of inquiry were the number number of families in each parish. schedule or form was sent out to each It attempted a classification of employment of individuals under . very general divisions of agricultu The inquiry under this last head en-

tirely failed, owing to the confusion engendered by the classification into families. The next C. was in 1811, and since 1801 the C. has been taken and since 1841 the C. has been taken every ten years. In the Cs. of 1811 and 1821 the official form of inquiry was modified so as to obtain a more accurate return of the occupation of the people. The heads of inquiry in 1841 were more numerous and minute, with the result that more accurate information was obtained. In reference to occupation, the enumerators were directed to ascertain the employ-

in favour of the dramatic critic of the ment of every person, distinguishing Observer, Mr. Bendall, some months sex, instead of merely, as hitherto, later. over twenty. Furthermore, the exact age of every person was ascertained, instead of quinquennial and decennial periods being taken, and the place of birth was also a subject of inquiry. Th by

ma into operation in 1001. I tive to him. time the uncheeked parish registers both in respect of its purpose and marked advance on its predecessors scope. Its object was mainly fiscal; in regard to what may be termed but it was also designed to according were the only available sources of in-formation. The C. of 1851 showed a number of blind, deaf, and dumb persons was recorded. It also made inquiry into the ecclesiastical and educational condition of the country by ascertaining the amount of church accommodation at the command of each denomination, together with a return of the numbers of all the con-

C. brought into prominence the sud-den and startling decrease in the conturies than the poorer, it is obvious population of Ireland. In 1861 the C. that the influence of we that the influence of the contractly preponderant in the Centuriata, the legislative of ancient Rome. From the codes of population of Ireland continued to Theodosius and Justinian, it appears show a decrease. The first C of Ireland the Scope of the Roman C. be land was taken in 1813, but it was

gregations on a particular day. This

came widened under the empire. It not till 1821 that it was in any true had become a complete register of the sense an accurate or complete record. population and wealth of all the in 1871 the C. was extended to cover centuries included within the limits the British Empire, and since that of the Casar's dominions. Full as it year the mode of taking the C. has was, however, it was in no sense a in no essentials been improved upon-statistical record like a modern C.. The accuracy of this C. was ensured and apparently in no way conceived to the country into to further the social progress of the country into the further the social progress of the country in the clear people at large. The first action is the country into confusing enumeration of the people of England local governmental or inunicipal subdivisions of the kingdom. One striking feature of the C. of 1871 was that topies of inquiry were the number in a reason of the control has a con-of persons, the number of inhabited the names of persons were required, and uninhabited houses, and the and to facilitate inquiry a separate

ple, persons in board ship, and trade, manufactures, and handieraft. homeless or houseless persons. In regard to the loperation of

county nolice

schedules were

parative rate . ' occupations was also inquired into by classifying the living in the different occupations or professions with due regard to age. Subsequent Cs. have still further widened the field of inquiry and elielted a mass of valuable information in the way of social and vital statistics; in 1901, c.a. Investigation was made into the evils of overerowding by inquiries as to the number of persons occupying any

particular room or part of a house, of rooms in all dwellings, instead as The Registrar-Goneral, in his pre-herctofore in dwellings of less than liminary report to the Local Govern-ment Board of the C. of 1911 points out that oach successive enumoration tends to become more complex than its predecessor owing to the numerous intercensul areas into which the country is divided, the growth of the population, and the domand for an

born to such marriages; (c) the industries or ser-efforts of clomentar vices with which workers were con-who give special C. I nected, as distinct from the occupa-under their charge. the test, as distinct from the decempand of the state of the were personally engaged; (d) in the ease of persons, born outside England and Wales, whether they were residents or visitors in this country; (e) the number period:

five rooms only. In contrast to the projudice, especially in certain ecclesinstical quarters and among the ignorant, excited by the earlier Cs., it is noteworthy that the Registrar-General expects fuller and more accurate returns than ever on account of the interest evinced by the public ts of inquiry. in the C., an interest which is were made attributes to the aid rendered bv 1911: (a) the the press; to the co-operation of narriages; (b) the parliamentary committee of the the parliamentary committee of the Trades Union Congress, and to the efforts of clomentary school teachers, who give special C. lessons to children

POPULATION

Year	Number of Males	Number of Females	Total Population	Deconnial Increase
1801	4,254,735	4,637,801	8,892,536	
1811	4,873,605	5,290,651	10,164,256	1,271,720
1821	5,850,319	6,149,917	12,000,236	1,835,980
1831	6,771,196	7,125,601	13,896,797	1,896,561
1841	7,777,586	8,136,562	15,914,148	2,017,351
1851	8,781,225	9,146,384	17,927,609	2,013,481
1861	9,776,259	10,289,965	20,066,224	2,138,615
1871	11,040,403	11,663,705	22,704,108	2,637,884
1881	12,639,902	13,334,537	25,974,439	3,262,173
1891	14,052,901	14,949,624	29,002,525	3,028,086
1901	15,728,613	16,799,230	32,527,843	3,525,318
1911	17,448,476	18,626,793	36,075,269	3,547,426

164,000 in 1871-81, 600,000 in 1881-91, 68,000 in 1891-1901, reso again to locarly half a million in 1901-11. Tho last C. shows a slight not gain by excess of birth over donthis, a result due, however, to a relatively greater reduction in the death rate than in the birth rate. The higher increases of population occurred in the counties surrounding the metropolis.

It is significant that the loss of population owing to emigration, which was The cent varies in value according to 164,000 in 1871-81, 600,000 in 1881-1901, rose again to States and Canada it is a bronze coin. the hundredth part of a dellar, worth nearly an English halfpenny, whilst in Holland the cent is made of copper, and is the hundredth part of a guilder (1s. 8d.). The centime originated in France, being a hundredth part of the franc, and is therefore equivalent to a tenth part of the English penny. Cent and Centime (from Lat. cen- has, however, been adopted in Beldivided into 100 centimes.

Cental, the measure of 100 lbs. in avoirdupois weight. It is used not only in Great Britain, but also in America and Canada. This denomina-tion appears in the 'Board of Trade

standards.

Centaurea, a cosmopolitan genus of Composite consisting of numerous species which are of no practical importance to man, and are often mere weeds. C. cyanus, the cornflower or hlue-hottle, grows in British corn-fields and is often cultivated for its pretty many-eoloured flowers; moschata, the purple or white Sultan, and C. suareolens, the yellow Sultan, are garden flowers; C. nigra is the knapweed, and C. calcitrapa the starthistle.

Centaurs, monsters, according to Greek icgends, which were half men and half beasts. The beast part is always depicted in art as being that of a horse. They were led by one



CENTAUR

named Chiron, and lived in the region of Mt. Pelion. They fought many fierce battles, but in the end Hereules killed most of them and drove the rest to Mt. Pindus.

Centaurus, the Centaur, a soutbern constellation, only a small part of which is seen above the horizon in the latitude of Great Britain. It is situated under Virgo and Libra and

gium, and also in Italy, Greece, and Chiron. This constellation, which was switzerland under different names. mentioned by Aratus, is bisected by In Spain the real (21d.) has been the Milky Way. It has everal points mentioned by Aratus, is bisected by the Milky Way. It has several points of interest, not the least being that it contains a Centauri, which is ap-parently our nearest neighbour in the stellar universe. This star is of the first magnitude (0.2), and the fourth brightest star. It has a very considerable proper motion, being as much as 368° a century. a Centauri is distant from the earth 270,000 times the distance of the sun from our planet. In other words, its distance in light-year units is 41, that is to say, light travelling at 186,330 m. a second takes that number of years to cover the intervening space between Centauri and the earth. a Centauri is a double star, one revolving around the other in seventy-nine years, and there is reason to believe from perturbations observed that there is also a third, albeit invisible, companion. The two luminous stars have a probable mean distance of 2232 millions of miles from each other. One of the twain has an identical spectrum with the sun, and is thought to he of tho same mass and luminosity. Its companion is about the same size, but considerably less bright. a Centauri is historically interesting as affording the first authentic result of the calculation of a stellar parallax, Henderson publishing his determination of it in 1838. α and β Centauri are known as the Southern Pointers' because they serve as a guide in

finding the Southern Cross. Centaury, a name applied to many plants, but most properly to Erythræa Centaurium, the common C., a species of Gentianacere. It is an annual herh with pink flowers, and was once gathered for the medicine of tonic property obtained from the flower-tops. The American C. consists of the genus Sabbatia, and S. angularis has rose-pink flowers. composite Centaurea is also often known as C. in popular language.

Centenary (Lat. centenarius, to do with a hundred), a celebration of an event which happened a hundred years ago, especially of the births and deaths of famous men.

Centerville, the name of many post villages and towns in the U.S.A., the largest heing the capital of Appanoose co., lowa, 30 m. S.W. of Ottumwa, on the Chicago, Paeific, and other railways, where many industries flourish. Pop. 5256.

Centetes, typical of the family Centetidæ. small, insectivorous a mammal found in Madagascar. single species, C. ccaudalus, the ten-ree, is sometimes known as the tailhetween Argo and Scorpio, and was less hedgehog, and is distantly consupposed to represent the centaur nected with the hedgehog within the

same order. In length it is from 12 to 16 in., its teeth are forty-three in ferent countries. number, the young have spiny hairs. twenty little ones at a birth.

Centigrade, see THERMOMETER.

in the international metric system, dupois). being, as its name denotes, one 100 lbs. being, as its name denotes, onehundredth (0.01) of a metre. It is, Cento (Gk. κέττρων, Lat. cento, thus one-tenth of a decimetre, and is patchwork), a composition put to-equal to ten millimetres. The metric gether out of passages borrowed from system has been universally adopted other writings. The manufacture of in France. A C. is equivalent to 0.394 in.; a enbic C. (c.c.) to 0.061 cuble in., and a square C. to 0.153 square in.

Centipede, or Chilopoda, an order of Arthropoda in the class Myriapoda, ment. and in some respects they resemble inserts. The number of legs varies greatly, some species having only fitteen pairs, while others have as inxury of monasteries (1335). The many as one hundred and seventythree pairs, and the term C. Is con-sequently mi-leading. The galleyworms, as they are sometimes called, have flat bodies consisting of numerous segments, all but the last two bearing a pair of legs, and the first body-segment hearing a pair of poisonclaws, while the head has three pairs of jaws and long autenne. The



They are creatures of n. seeming to have little effec as some are utterly devoi and only one family has

cyes. They lurk heneath stones or in houses, and at night attack small animals. The genera Lithobius, Scolopendra, and Geophilus are known to Britain: L. forficatus is our most common species; S. nigas, a large tropical C., which attains a length of twelve inches; and G. electricus glows in the dark.

Centlivre, Susannah (1667-1723), an English actress and dramatist. She was the daughter of a Lincolnsbire gentleman of the name of Freeman. Bath is the town that first saw her drama, The Perjured Husband, In the year 1700. She also wrote eighteen other plays, the best known

Centner, a weight varying in different countries. In Austria, Den-mark, and Switzerland, where it is and the female brings forth about most commonly used, it is equivalent in the metric system to fifty kilogrammes (50,000 grammes), and in Centimetre, a measure of length the imperial to 110 231 lbs. (avoir-Commercially its value i-

> such an artificial work was a favourite literary exercise of the Romans in the early centuries A.D., as later of the mediæval monks. Virgil's Eneid was especially subjected to this treat-ment. Thus on it were based both Ausonius' rapid survey of biblical history (4th century A.D.) and Capi-tulus' attack on the immorality and ing together a life of Christ from the Homeric poems.

> Cento, a tn. on the Reno, 16 m. N.N.W. of Bologna, with which it is connected by the canal of C., in Emilia, Italy. It is the birthplace of Francesco Barbieri, the painter.

Pop. 4975.

Central Africa, British, see BRITISH

CENTRAL AFRICA.
Central America, a geographical div. extending from the isthmus of Tehuantepec to the isthmus of Panama. Mountain ranges traverse this portion of America from end to end. The Sierra Madre is the principal centifede are carnivorous, killing their close on 10,000 ft. These mountains extend S. into Nicaragua. The large volcances of Mexico and C. A. are able to inflict fatal wounds

These rise to great a Acatenango in Gnateft.) and Trazu (11,200 in Costa Rica. The

amount of deposit from the volcanoes is very great, and covers a wide area. In some places this deposit has entirely blocked up the original struc-ture of the country. Eruptions began in the cretaceous period, and continue at the present time. The rocks are composed of lava and ashes, mostly andesitic and basaltic. Owing to the greatest elevation helng on the Pacific side, the rivers are shorter than on the Atlantic side. The principal river is the Usumacinta, on the E. side, which is more than 600 m. long from its month to the Rio de la Pasion. The average temperature on the low coast lands is from 80° to 73° F., and in those lands lying from 2000 to of which are Lore at a Venture, The and in those lands lying from 2000 to Gamester, and The Busybody. Her 5000 ft. above sea-level the temperaplays were collected in the year 1761, ture is 73° to 63° F. Above this and some of them still hold the stage. altitude frosts occur. The rainfall is Central

exceptionally heavy on the Atlantic, and in 1907 the hostilities extended. side, as much as 180 in. falling in the year in Alta Verapaz, Guatemala, while San Salvador has only 54 in. A more striking contrast exists between Greytown, with a rainfall of 244 in., and Rivas with 69 in. The flora ranges from Alpine to tropical. With regard to the forests, they are inferior in size to those found in the latitudes in the eastern hemisphere, but they are far more beautiful and luxurious. In the volcanie regions the soil is extremely fertile, and yields in consequence splendid crops of rice, coffec, coeoa, and maize. The fruits grown are bananas, yams, pineapples, guavas, and citrons, while arrowroot, beans, and tomatoes are largely cultivated. The woods found thero are mahogany, cedar, logwood, and Brazil wood, cocoa palms, and mangroves also grow in this country. Of fibrous plants which grow in C. A. winter's bark, sarsaparilla, vanilla, and indiarubber are the ropresonta-Many beautiful orehids and flowers are peculiar to this country. With regard to the animals, these are as varied as the plants, but owing to the region being comparatively small, there are very few species that can claim to be peculiar to C. A. Pumas, jaguars, tapirs, monkeys, alligators, venomous snakes, vultures, and birds of brilliant plumage are found in great variety. There are as many as 260 species of birds, many of which are found only in this part of the world. Bats are so numerous that in some parts they have amounted to a plaguo, and whole in large numbers, and at troublesome kind. The na consisted of the Maya Indi

other parts of the country. the pure-bred Indian is mostly found | Aral-Caspian in Guatemala and Yucatan, and only to a much less extent in other states. The greater part of the population is made up of half-breeds, but at Costa Rica Spanish people predominate. Scattered over the country may be found many very interesting remains, the principal being the ruins of Palenque in Tabasco, Uxmal in Yucatan, Santa Lucia in Guatemala, and Copan in Honduras. C. A. is divided Copan in Honduras. C. A. Salvassinto republics named as follows:

October Honduras, Salvador, Guatemala, Honduras, Salvador, Nicaragua, Costa Rica, and Panama. British Honduras is a crown colony sands, eneireles Lake Kara-kul. The belonging to England. The provinces of Chiapas, Tabasco, and Yucatan all ing to the Turanian basin are watered form part of the Mexican republie. by the Amu and Syr, which aloue In the year 1906 war broke out sneeced in bridging the desert as far between Guatemala and Salvador, as the Aral Sca. The Murghab and

N., and there were smalle:

thereby involving all the republics, and leading to trouble between Salvador, Honduras, and Nicaragua. A treaty of peace, however, was signed in April 1907, and a conference, arranged by the presidents of the United States and Moxico, negotlated a treaty for permanent peace.

Central Asia (Russian) is nearly all comprised in the province of W. Turkestan. On the N. this province is Caspian Sea, on the S. by Persia, Afghanistan, and India, and on the E. by E. Turkestan and Mongolia. There is a very sharp physical division between the mountainous country to the E. and the deserts and steppes to the W. and N. The highlands are part of the orographical flange which skirts the north-western border of the great tableland of C. A., and runs in a direction S.W. to N.E. The great border chains consist of the Ala-tau, border chains consist of the Ala-tau, Trans-Ili, Kunghei Ala-tau, Kokshaltau, and Trans-alai, etc., whilst many ranges, including the Chingiztau, Kandyktau, Ferghana, Nuratau mountains, etc., shoot off from these border chains in various directions. In both systems the heights of individual peaks vary from 10,000 to 20,000 ft., and Mt. Kaufmann and Khantengri attain an altitude of 23,000 ft. Well-developed gladiers lie on the Koksu and Khantengri mountains, whilst perpetual tengri mountains, whilst perpetual snow covers many summits. Deep depressions such as Dzungaria, Issyk-kul, etc., between the ridges spread-ing out westward have from time imvillages have been left deserted owing monorial served as passes to the Wto the overwhelming swarms of these from the great central plateau. But
ereatures. Insects are also present the mean elevation of the passes is
in large numbers, and a: belt of plains, known as plains, whose average some 1250 ft., which in are surrounded by the

depression—a stretch of lowland occupying two-thirds of the whole province, the altitude of which is rarely greater than 400 ft., sinking sometimes to below sca-level. The Kara-tau moun-tains separating the Syr-darya and Chu rivers is considered the line of demarcation. The higher girdle of plateau land, which is well drained by the Balkash, Ala-kul, Ili, and other rivers which flow into Lake Balkash. support the countless herds and flocks of the Kirghiz. The Akkum steppe, with its wide expanse of shifting

hara. In

between oasis and desert is very Transcaspian steppes. The annual variations in temperature are very considerable. Thus, whilst in January the thermometer falls usually below freezing point, and has been known to register 10° F., a temperature of 100° F. in the shade and more is not uncommon in the summer time. Refaction from an axid soil aggregates. flection from an arid soil aggravates flection from an arid soil aggravates the discomfort caused by the heat. The fauna is very similar to that of N. Asia, including the Himalayan heat, marmot, badger, 17ux, tiger, jackal, antelope, zebu, hedgehog, etc. Wild horses and camels are found, whilst the splendid Ovis poli abounds on the Paris tableland. There are on the Pamir tableland. There are 385 different species of birds, whilst the variety of insect fauna is almost countless. Arboreal vegetation is rare. Poplars, ash, juniper, maples, and pines ocenr, whilst apple and apricot orehards flourish on the lower mountain slopes. Besides the apple and apricot, almonds, pomegranates, and figs are also cultivated. The chief Although only 2 per cent. of W. Turkestan is arable land, the rest consisting of 54 per cent. desert and 4,000,000 acres in constant cultiva-tion, whilst S. of the Syr-darya gardening, which has reached a high stage of development, is an important

Tejen dry np in the heart of the Kara- and iron ores and silver arc not kum desert whilst the 72 mined. The petroleum wells, as also no furthe the 72 mined. The petroleum wells, as also the salt lake of Ferghana, will probably be exploited in the near future. between oasis and desert is very clearly defined, whilst the only fertile soil is found at the base of the mountains. The geological formation of the country is perpetually changing. Hot desert winds are continually parching the numerous lakes; the Sea of Aral, or the 'Bine Sea,' now fills silk, cattle, leather, wool, etc., whilst only a fraction of its former basin; nearly all manufactured goods have prosperous regions, where ancient to be imported in return, as discivilisations flourished in Bokhara, tilleries and factories for dressing Bactria, and Samarkand, have been raw cotton are the only manufacture ways through the desicoation ing establishments at home. Considerable commerce is carried on. Bactria, and Samarkand, have been raw cotton are the only manufacturswept away through the desiccation of river channels which were once the main arteries. The climate is silver filigree, copper, knives, etc., continental, its salient feature being is rapidly declining. W. Turkestan the scarcity of rain. Thus though recipitation is plentiful on the high-lands, it is reduced to 11 in at Tash-kand, Semipalatinsk, Akmolinsk, kent, and is almost zero over the Trans-Caspian steppes. The annual Trans-Caspian territory and the semi-lands, in the province of the semi-lands of the semi-land Turgal, Almidaria, Zaraisnan, the Trans-Caspian territory and the semi-independent states of Khiva and Bokhara, the total area being some 1,290,000 sq. m. The chief towns are Tashkent, the capital, in the Syrdarya province, with a pop. of 156,414; Khokand (86,704), Namangan (61,888), and Andijan (49,682) in Ferghana; Samarkand (58,194), Marghilan (51,832), and Khojent (31,881). The two railway systems are the Trans-Caspian and Orenburg-Tashkent lincs. The former begins from Krasnovodsk on the Caspian and finally reaches Andjan (1270 m), viá the oasis of Tejen, Merv. Bokhara, and Samarkand. In 1905 Tashkent, connected by a branch line with Samarkand, was joined up with Orenburg (1149 m.) viá Perovsk, Kazalinsk, and Irphiz. Turkestan is now a land of ruined eities, monnments, and canals. Dilapidated Dilapidated ments, and canals. mosques, madrasas, and other Ara-bian buildings bear witness to a time of prosperity and active intellectual life, which passed away soon after the conversion of the country to and his are also chiracted. The cherical arroys, however, are rye and wheat, life, which passed away soon after whilst in some districts, viticulture, the conversion of the country to cotton and tea planting have been Mobammedanism. The Russians successfully introduced; 531,000 acres have abolished slavery and are build-were under cotton cultivation in 1902. merchants and officials who are sunported by beavy taxes, are in danger of encouraging the depraved form of 44 per cent. pasture, irrigation keeps Islamism which to-day exists among the upper classes. As would be expected from the innumerable conquests and migrations, the pop, of W. Turkestan is very mixed. The chief representatives of the Aryan race are the Ural-Altaians, who are subdivided into Kirghiz (3,989,000). stage of development, is an important with Turkessan is very fixed. The industry. Cheunhers, inclons, carrots, edief representatives of the Aryan marrows, barley, lentils, millet, and rice are also grown. The mineral wealth of the province is very considerable, but as yet undeveloped. As the excellent coal-beds of Kulja The Kirghiz, of whom there are two are scarcely worked at all, lack of branches, the Cossack and the Kara fuel seems to be the reason why lead Uzbegs (726,500), Turkomans (under 250,000), and Sarts (about 1,000,000). The Kirghiz, of whom there are two branches, the Cossack and the Kara

It is on the Illinois Central Railway, 'docentralisation' have of late years etc., and, besides having an important been mooted, as, e.g., in the case of fruit market, has glass, granite, and the suggested devolution of some iron works, woollen mills and eanning factories. Pop. 6721.

Central India, the name used to denote a group of native or feudatory states bounded on the S. hy the Central Provinces, on the E. hy Bengal, and on the N. by the United Provinces and Rajputana. This group is divided into two large divisions, i.e. Baghelkhand in the E., and Bundelkhand in the W.; Among the important subdivisions of the group are Bliopal, Gwalior, Rewa, The natives make Indore. articles of carved wood, painted and carved ivory and brass. Silk, cotton, and woollen articles are also manufactured. The elimate is very hot and sultry, and the native quarters unclean and unsanitary. The area is 78,772 sq. m., and the pop. (1901) 3,628,781.

Centralisation, a term indicative of e system of concentrating administrativo functions in the hands of the principal departments of the state. In political science it is the exact opposite of what is implied by the doctrine of laissez-faire, or that manner of carrying on the government of a nation in which the people are permitted to regulate themselves with as little interference from the central or supreme authority as is compatible with the conception of an indopendent political society. The irreducible minimum of the functions of the state which, according to Herbert Spencer, compriso the duty of keeping order within the territory of the state and of defending its horders from external aggression, has in more recent times become so expanded that much that was formerly left to the discretion of local governing bodies has been transferred to state departments. With the remarkable increase in mnnicipal trading in England, the introduction of so much legislation on the lines of social reform, and the great activity in matters apportaining to public health, the functions of such departments as the Home Office, the Board of Trade, and the Local Government Board have necessarily become even more comprehensive. There can he but little doubt that C. secures uniformity in institutions, and that what may appear to be encroachments by the state amount in the end to nothing more than an enlightened conception of what is connoted by the obligation to preservo internal order in a state. The samo increase in central authority is everywhere observable among civilised nations,

measure of autonomy to Ireland, it may he that such schemes really relate to the wider and altogether different idea of Federalism. All powerful modern states are necessarily more or less under the sway of militarism, and this is probably the main factor in the dominance of C.

Central Provinces, a district of India, bounded on the N. by the Central India States, on the S. by Hyderabad, on the E. hy the states of the Madras Presidency and Bengal, and on the W. by Bhopal, Indore, and the Whender the Khandesh district of Bombay. The province is divided into five main divisions: Juhhulpore, Ner-hudda, Nagpur, Chhattisgarh, and Berar, and these divisions are subdivided into twenty-two districts: Sangor, Damoh, Jubhulpore, Mandla, Seoni, Narsinghpur, Hoshangabad, Nimar, Betul, Chhindwara, Wardha, Nagpur, Chanda, Bhandara, Bala-ghat, Raipur, Bilaspur, Amraoti, Akola, Ellichpur, Buldana, and Wun, and fifteen tributary states: Makrai, Bastar, Kanker, Mandgaon, Kaira-Chhuikhadan, garh, Rawardha. Sakti, Raigarh, Sarangarh, Chang Bhakar, Korea, Sirguja, Udalpur, and Jashpur. N. of the Satpura range lies the rich and fertile plain of Nerbudda, 10,613 sq. m. in area. Tho district S. of the Satpuras is unprolific and covered with jungle. The ehiof rivers are the Nerbudda, the Tapti, the Wardha, and the Wain gauga. The climate of the province is on the average cooler than that of most parts of India. The clemency of the weather and the healthy nature of the country are duo to the rainfall. which is more abundant than in Northern India, and occurs regularly in June. N. of the Satpuras wheat and grain erops are prolific: in the E. rice, cotton, pulse, and linseed are the chief products. The province is zieh in coal, and the ehief mines are at Warora and Mopani. The railway systems of the province are the Great Indian Peninsula and its hranch lines, the East Indian, the Beugal, Nagpur, and the Indian Midland, but large tracts of the country are still without railway communication. The chief exports of the C. P. are cotton, wheat, linseed oil, rice, and hides. The majority of the inhahltants are Hindu, but there are considerable numbers of Mohammedans and Gonds (Aborigines). The natives are slow to adopt Western civilisation. Total area of province, 113,281 sq. m. Pop. (1901) 10,847,325. Centranthus, a European

France.

Centrarchidæ, or sun-fishes, is a family of perch-like fishes which in-Microplerus, which comprises the point is called the C. of G. hlack hass, is found in Europe.

Centre, a point which is equidistant from all points on the hounding lines or surfaces of a figure. Such a fixed point can only exist in a circle or a sphere, and the equal lines which may he drawn from the C. to the boundary This point is such that the of mass. moment of the whole figure in any plane is the same as if the whole mass were collected at that point. If a figure is so regular that circles may

ngure is so regular that eircles may he described within and without touching different points at regular intervals, the C. of such eircles is often referred to as the C. of the figure.

Centre, Canal du, an important canal in the dept. of Saône-et-Loire, France, joining the Saône and Loire. The canal is 75 m. long, stretching from Châlon to Digoin. It was constructed in 1751 constructed in 1781.

Centre Board, a nantical device used lee way hy offering greate. resistance to the current. T

lee-hoard.

Centre of Gravity, a fixed point in a body through which the resultant of the gravity forces acting on all the molecules of the hody may he said to From the earliest times it had vaguely recognised that an attraction existed between all material particles, but it was Newton who established the fact that the tendency of hodies to fall to the surface of the

is represented in Britain by C. ruber, surface the existence of any gravita-the red spur-valerian. It grows to a tional force, other than that in which height of 1 or 2 ft., has a sweet scent, the mass of the earth is an over-and is cultivated as an ornamental whelming factor. Every particle, plant. The corolla has a spur in which therefore, tends to fall in a direction honey is secreted, and only due which we call vertical, that is, to-stamen and one carpel are developed, wards the earth's C. of G. The C. calcifrapa is a native of the coasts vertical line at any point of the globe of the Mediterranean and of temperate may be determined by the use of the plumh-line, which consists of a weight attached to the end of a string. family of perch-like fishes which in- A force acts upon every particle com-habit fresh-water of N. America. The posing a hody in a vertical direction; species, of which about thirty are the directions of all the forces on known, are compressed and some all the particles will, therefore, be what oval in body and have a spot parallel, and a point can he found on the operculum. Most of them through which the same effect can huld nests, all are voracious, and he produced by a force equal to the many are valued as food. The genus sum of all the little forces. This In the case of a sphere or eircle, the C. of G. is the geometrical centre, in a cylinder it is the middle point of the axis, in a triangle it is situated on the line which joins the vertex to the middle point of the opposite side, and at a distance from the vertex equal to are called radii. Irregular figures and two-thirds of that line; in each of solids, however, have a fixed point these cases it must be supposed that which is called a centroid (q.r.), or C. the material is equally dense through out. To determine the C. of G. of a hody experimentally, it should be suspended from one point and allowed to hang freely; the C. of G. must then be in the vertical line passing through the point of sus-pension, otherwise the body would rotate hy reason of a greater force acting on one side. By choosing acting on one side. By causeman another point of suspension a second vertical line may be established in which the C. of G. is situated, and the point of intersection of these two lines will give the required centre. As the action of gravity can he reduced to a single vertical force to prevent a boat making too much acting at a single point, equilibrium ative positions of

points at which a is used in small speed hoat and other racing skiffs. The board supported at one point only, that consists of a movable keel which point requires to be in the same swings on a pivot and is lowered by varied line as the C. of G. to establish pleasure through a slot in the bottom equilibrium. If the hody is supported that the bottom is a supported to the bottom of the bottom of the bottom is a supported to the bottom of t of the boat. Vessels with wall sides on or from a number of points, the can acquire keel depth by means of a vertical line from the C. of G. requires to fall within the figure traced out hy joining those points by straight lines. The broader the base, therefore, the more stable is the equilibrium, for the body may be tilted to a greater extent without bringing the line of gravity outside the base; so that the body when released simply resumes its former position. A body is said to be in unstable equilibrium when the slightest disturbance of position carth was part of the general law of results in its toppling over, such as a universal attraction. Owing to the stick balanced on the finger; in this great mass of the earth, it is extremely asset the vertical line through the difficult to demonstrate on the earth's [C. of G. does not pass through the If a body is moved to an adjacent position and still remains in equilibrium it is said to he neutral, a sphere is an example; however it is moved, the C. of G. is always vertically above the point of support.

Centre of Gyration, that point in a rotating hody at which the total mass of the body may be supposed to be the axis by reason of the impact, but concentrated. Gyration is rotation a shock is felt if the obstacle is met at about a fixed line, called the axis of a greater or smaller distance gyration, and the inertia of the body centre of Pressure, that point in a gyration, and the inertia of the body Centre of Pressure, that point in a acts as a resistance to any change in surface pressed by a finid at which the angular velocity of the body with the whole pressure exerted by the regard to the axis of gyration. The fluid may be connecrated by a

located at a single point so that the corresponds with the centre of gravity, resistance is annaltered.

Centre of Oscillation, that point in a suspended body at which the whole mass of the hody may be looked upon the C. of P. is at a distance of two-as concentrated in order that the thirds of the vertical side below the time of oscillation may be the same. Surface. The term is nsed with refer-A simple pendulum consists of a heavy particle suspended by a fine is not always possible to represent thread from a fixed point, about the pressures on a curved surface by which it oscillates. Sinch a pendulum a single force.

does not revist in practice, and it is Centrifuzal and Centriptal Forces does not exist in practice, and it is centrifugal and Centripetal Forces usually convenient to use a rigid rod are those called into play when a terminated by a heavy mass. The hody is constrained to move with different points in this terminated by a heavy mass. The different points in this system will strive to complete their oscillations in different times, owing to their he accelerated. Between these points it will he possible to fix upon a point where the motion is neither accelerated or retarded, and the distance of this centre of oscillation from the point of suspension is the length of the pendulum. It has been found that the oscillation are mutually convertible, so that the centre of oscillation may be found experimentally as that point at which the pendulum must be suspended in order to produce the same

a hody moving round a fixed axis at which it may be struck without pro-ducing any chock at the axis. If a body free to move be struck instantancously in a direction which does heing hinged at the top end. not pass through the centre of mass, it is made to rotate about some other

point of support if the stick is moved. I direction. The two points, the centre of percussion and the centre of rotation are mutually convertible, and in fact stand in the same relation as the centre of oscillation and the point of suspension of the body considered as a pendulum. A cricket bat swung to meet a ball at its centre of percussion does not communicate any shock to

resistance depends non the distribusingle force equal to the whole prestion of the mass, and it is possible sure. If a plane surface is immersed to conceive of the whole mass being borizontally, the ceutre of pressure located at a single point so that the corresponds with the centre of gravity.

uniform velocity in a circular path. According to Newton's law a body will continue to move with a constant rarying distances from the point of velocity in a straight line unless acted suspension. They must, however, all upon by external forces. If we wish oscillate together, and it follows that the body to take up a circular path, a the motion of particles near the point force must be applied perpendicular of suspension will he retarded, while to the direction of motion and equal that of the more distant particles will in magnitude to the product of the mass into the square of the velocity divided by the radius of the circle. The direction of the force towards the centre of the circle, and considered in this light, is a centripetal force. If we consider that the body tends to move away from the centre. the force point of suspension and the centre of with which it does so is called the centrifugal force. The two terms are really two names of the same thing considered in different aspects. The motion of the body when the force is removed will be along the tangent to time of oscillation as when the penda-lum was suspended at its first point of suspension. The centrifugal force is an of suspension. The contribution important quantity, and has many centre of Percussion, that point in applications. Thus in the case of an engine governor there are two balls hung on rods fixed to a vertical rotating shaft, which rods can move np and down in a vertical plane, when the shaft rotates the knobs tend to get away from the shaft and so are lifted np. This lifts up a valve-cap point in the hody, whether that point is the normal street or not. That is to say, that and allows steam to escape when the point is neither carried forward in a rotation is too rapid. The outlet of direction parallel to that of the hlow, steam decreases the rotation of the nor has it a reaction in the opposite shaft, lowers the halls, and closes the

valve so that the pressure of steam; is apparently forced out by virtue of the centrifugal force acting upon it strictly speaking, this moisture tends to go in the direction of its own planes equa motion, and so leaves the fixed from those material behind. Similarly in separation the system. tors for various operations. The ; centrifugal force on a body is proportional to its mass, so that dense bodies will tend to move to the outer! radius of a cylindrical vessel rotating about its axis, and lighter substances tend to move in towards the axis. In the design of fir-wheels, and all rapidly rotating wheels, the centrifugal force is an important considera-With heavy rims moving at big velocities the force becomes enormous. and if the tensile strength of the metal does not exceed the tension caused by the force, disastrous results are caused by the wheel fiving to pieces.

Centring. When arches are being made it is necessary to support them in some way in order that they shall not come to pieces before the mortar is set and equilibrium obtained. This is done by making a framework of wood called a 'centre' of the required curve along its npper edge upon which the brick or stone can rest and be built up. In the case of arches of small rise such as those above the reveals of a window, the centre can be shaped from a single board or two boards, which are held in position by means of supports nailed into the jambs of the opening. This can only be done if the soffit is of small thickness for larger ones a semicircular frame is made with strips crossing the top. For larger arches with a big rise a complicated structure of wooden pieces must be built up to the required shape and of such a form that stresses in the members are of safe values when the load is applied. Thus the ribs, as they are called, should be kept in compression if possible, and for extra large arches this compression must not be large enough to cause bending and thus displacement of the arch. The re-moval of the centre is done gradually so as to let the arch take up its proper

ranean, and is sometimes taken on member of the council of war.

British coasts.

Centroid is analogous to centre of and rotation of the shatt are kept gravity, but in its determination we fairly constant. Centrifugal drying leave out consideration of mass and machines act on the principle that consider distance only, so that the C. the moisture clinging to the material of the body of uniform density will coincide with its centre of gravity. Thus in a system of points (separate when set in rapid motion, but more or forming an area) the C. is situated at a distance from three co-ordinate planes equal to the average distance from those planes of all the points in

> Centrolophus, a genus of deep-sea fishes of the family Stromateidæ and suborder Percesoces. C. niger, the black fish, and C. britannicus have occasionally been found on British

coasts.

Centronotus, or Pholis, a genus of spiny-rayed fishes of the Blenniidæ, or blenny family. The species are littoral, and C. gunellus, the butter-fish, is British.

Centropomus, a genus of perch-like fish of the Serranidæ, or sea-bass family. C. undecimalis, the sea-pike, which tenants the months of great rivers of S. America, weighs about twenty-five pounds, and is used largely for food.

Centropristis, a genus of spiny-rayed fish of the Serranidæ, or sea-bass family, of which several species appear on the coasts and in the rivers of America. C. nigricans, the black perch or black bass, is abundant in N. American rivers, and is much esteemed for the table.

Centumviri, a court of plebelan judges in ancient Rome, the number of which varied from 100 to 180. Sometimes the court sat as a whole body under the presidency of a prætor, but on occasions it sat in Their power of sections (consilia). jurisdiction extended in the first place to matters of status and quiritian ewnership, but latterly it was confined mostly to questions of succession. The special sign of quiritian ownership was a spear, and therefore one was always erected in front of their court.

Centunculus, a small and insignifi-cant genus of Primulacese which flourishes in temperate and subtropical countries. In Britain it has one native species. C. minimus, the bastard pimpernel, a small plant with pink flowers.

Centurion, a Roman officer on foot. The three principal divisions of the so as to let the arch ease up as proper if the three principal divisions of the form.

Centriscus, the name given by the Hastati, and the Triarii, and ther cach elected twenty centurions, two of whom were appointed to each of which the lexion was divided. The snipe, is common to the Mediter-lifts centurion chosen was always a granch and is sometimes taken our member of the example of the carpoid of was always a member of the example of was always a member of was always a was a wa

Centuripe. \mathbf{or} (Lat. Centuripæ), a tn. in the prov. of which grows in damp, shaded parts of Catania, Sicily. The town is situated Brazilian forests, is a herb from the at the foot of Mt. Etna between the roots of which the drug ipecacnanha Simeto and the Salso, and is about 30 m. N.W. of Catania. In ancient times the town was one of the most important possessions of the Siculi (see Cicero in Verr. iv. c. 23, and Plin. iii. c. 8). The Emperor Frederick II. sacked the town in 1233. There are sulphur mines in the vicinity. Pop.

(1901) 11,187. Century Magazine, The, an illustrated American magazine founded in 1871 hy Dr. J. G. Holland, Roswell Smith, and Charles Scribner under the name of Scribner's Monthly Magazine. In 1881, on the death of Dr. Holland, Mr. Richard Watson Gilder obtained the sole editorship, and the magazine became known under the title of the C. M. The C. M. claims to be an unhiassed critic contemporary politics in Among its most famous ns have been George countries. contributions Kennan's Siberia and the Exile System, and the Life of Lincoln, hy his secretaries. Hay and Nicolay. The present editor is Mr. R. U. Johnson, and the magazine now comprises two serials, short stories, verse, and dealing with travel, disarticles covery, literary, and artistic interests. The contributions are of the highest literary excellence and are charac-terised by fresh and anthoritative observations, artistic treatment, and buman interest. The Century also specialises in the art of wood-engrav-The illustrations are exceping. tionally fine. The price of the monthly publication is 35 cents.

Ceorl, an Anglo-Saxon word used to denote a freeman who held a position above the serf, hat below the noble or thegn. The position of the C. was precarious; occasionally hy signal services he was promoted to the rank of thegn, but more often through stress of circumstances he identified with became the serf. After the coming of William the Congneror and the establishment of Norman fendalism in England, the C. disappeared as a unit of a definite class, and a corresponding position was occupied by the newer order of villeins.

Ceos, now called Zea, an island in the Ægean Sea. It is one of the Cyclades, and noted principally for its lovely climate and its fertility. The length is 13 m. by 8 m., and it covers an area of about 10 sq. m. The hirthplace of the poet Simonides. Pop. 5000.

America.

is obtained.

Cephalanthera, genus of a Orchidacere, of which three species are British. C. grandiflora, C. rubra. and C. ensifolia are all leafy plants with rhizomes, a rudimentary rostellum, and an unspurred labellum.

Cephalanthus, a genus of Rubiaceæ common to Asia, Africa, and America. C. occidentalis, the hntton-wood, is a shrub which grows to a height of 6 to 15 ft., and has a light spongy wood. The root contains an agreeable bitter

used as a remedy for conghs. Cephalaspis, a curious genus of fossil dipnoid fish found in the Old Red Sandstone of Scotland and the Upper and Lower Devonian of Canada and Britain. The species had elongated hodies, large heads covered with a hony shield, a median spine, a single dorsal fin, and the anal fin was heterocercal like that of a shark. They bad no jaws, and the skeleton is thought to have been cartilaginous as it has not been preserved. C. Lyelii and C. Lloydii are British species, and C. magnifica, the largest Cephalaspid, occurs in the Caithness Flagstones.

Cephalhæmatoma, a term used in medicine to denote a tumour or swell-iog due to the extravasation of blood beneath the pericranium. It is only observed in new-born infants, and is produced by pressure during labour, which causes a tearing of the perios-teal tissues. There is no need in most cases to do anything with a swelling of this kind, as absorption generally occurs and the C. disappears.

Cephalochorda, a group of verte-hrates, or ally of the vertebrates, which is classed immediately below Pisces, or fishes. It consists of only about ten species comprised in the single genus Amphioxus (q.v.).

Cephalodiscus, a curious animal about the classification of which there has been some disputation among zoologists. It was first discovered in 1876 when the members of the Challenger expedition were dredging in the Strait of Magellan, but later it was found in several other seas. was originally believed to be related to the Polyzoa, but is now generally classed with Balanoglossus, Rhabdopleura has been placed with it among these worm-like creatures which bear signs of approximating to vertebrate structure. The C. is colonial, and lives with other indi-viduals in a branching, weed-like Cephælis, now sometimes included investment which may measure as in the genus Uragoga, belongs to the much as 9 in. by 6. The body, like order Rubiaceæ and flourishes in S. that of Balanoglossus, is divided into C. (or U.) ipecacuanha, a proboscis, collar, and trunk; two

Cephalonia

gill-slits are present and a notochord well-developed external shell a funnel is represented by a diverticulum of composed of two unfused lobes, four

the alimentary canal.

Sepia, the cuttle-fish; when there are only eight arms, the creatures are observed and have no shell, e.g. deepus, the poulpe or octopus, and argonaula, the paper-nautilus. Cephalotaceæ, the smallest possible order of dicotyledons, as it contains the funne of the first order of dicotyledons, as it contains a significance of a solitary species, Cephalotus follicularis. This four cteni in it is a likely with the popular power in the four cteni in it. The ancient forms had extend to plants of the order of the modian anus, ink-sac, paired kidneys, and genital duct open into it. The ancient forms had extend to plants of the order of the contains are characteristic. ternal shells, and though these may be seen fossil as belemnites and ammonites they have persisted in only one living genus, the Naufilus. The eyes are very large, those of one species measuring 15 in. across; the mouth has a parrot-like beak and on the tongue there is a rasping ribbon; the sense of touch is highly specialised in the arms. The cephalopods are all marine, voracious animals which feed on animal matter, especially on Crustacea; they can swim in a horizontal position or creep by means of their arms, and they project them-selves hackward swiftly by a con-traction of the mantle. The ink-sac is a gland which opens into the rectum, and contains a dark brown fluid in which is Sepia; when alarmed the deriver the currounding water so as darken the surrounding water so as to cover its disappearance. Among the C. the sexes are always distinct, a characteristic not common among the continuous and the female is usually mentioned by numerous ancient larger than the male. The eggs are allere and are attached in masses, called sea-orapes, to bodies in the sea, appears as to the number of stars and immediately on hatching they present the appearance of a diminutive adult. The C are divided into two orders, the Tetrahranchiata and Dibranchiata, according to the number of their gills. In the former order

Leading to the northern hemisphere, surrounded by Cassiopeia, Ursa and Lordon, and Cygnus. It is mentioned by numerous ancient authors, including Endosume and Aratus, but considerable diversity appears as to the number of stars it contains, Tycho naming eleven, the contains and the conta her of their gills. In the former order there are four, and the species are 1. One of the largest rivers of Attica characterised by having no ink-sac, a (Podoniphti or Sarantaporos), flow

kidneys and auricles, and numerous Cephalonia, or Kephallenia, the arms without suckers. Nautius is place mentioned in the Odyssey as the single living genus of this order, Naulilus is place mentioned in the Odyssey as being Samos (Same). It is the name given to the largest of the seven lonian Isles lying to the W. of Greece and opposite the entrance to the Gulf spaces are usually furnished with an of Lepanto. The length is 32 m. by a hreadth from 5 m. to 12 m., and has na race of 300 sq. m. The coast-line news and arread the surface is mountainous. The highest point is sucker-hearing arms. When there are almos (5315 ft.). The vine and currant are grown extensively, and wheat, oil, and fruit are the chief exports. The chief town is Argostoli. Pop. 80,000.

The length is 32 m. by and have an internal shell, the long of the funnel are fused, the kidner are grown extensively, and wheat, oil, and fruit are the chief exports. The chief town is Argostoli. Pop. 80,000.

The largest of the seven lut several are found fossil, the component have smally furnished with an ink-sac, there is no external shell, the lones of the funnel are fused, the kidner are either eight or ten and there are either eight or ten and there are sucker-hearing arms. When there are eight arms and two tentacular arms these molluses are known as Decartical and have an internal shell. Sepia, the cuttle fish; when there are cephalopoda (Gk. sepaa), head, only eight arms, the creatures are

> insect-catching. The flowers are perigyhermaphrodite, apetalous, nous, with six perianth leaves. stamens in two whorls of six, a gynæceum, consisting of six free apocarpous carpels each with a single basal ovulc. The fruit is a one-seeded The order differs from the follicle. Saxifragaceæ only in the free. apocarpous carpels and basal ovules. The upper leaves of the plant are flat and green, while the lower leaves are those which bear the pitchers and

have lids.

Cepheus, a king of Ethiopia, son of Belus, hushand of Cassiopeia and father of Andromeda. He was one of the heroes in the voyage of the Argonauts, and was changed into a constellation after his death. Se Ovid, Md. iv., v. 669, and v., v. 12).

darken the surrounding water so as Cepheus, in astronomy, a constel-to cover its disappearance. Among lation of the northern hemisphere,

Cephisus (Cephissus) (Gk. Kybiocos):

ing S. through the olive-grove W. of the true wasps of the family Vespidæ, Athens into Bay of Phaleron (near Eleusis), E. of Piræus. It rises on the slopes of Mts. Pentelicon and Parnes, and is constantly fed by their springs. 2. Also a river flowing through Phoeis and Bœotia towards the hed of the ancient Lake Copais (Topolias). Now called Mayronero, it empties into the channel of Eubcea. Its waters are drawn off in drainage canals.

Cephus, a genus of hymenopterous insects of the family Cephidæ, which have no waist and live on plants. The females lay their eggs in stems or twigs and the white larvæ cat their way through and thus frequently are very destructive. C. integer is an American species which feeds on willow, and C. pygmæus a European species which lives on corn.

Cepola, the typical genus of perchlike fishes of the Cepolidæ, or handfish family. The species are all marino and inhabit European seas; C. rubescens, the red handfish or red snakefish, is a British species which grows to an average length of twelve

inches.

Ceram, Zeram, Serang, or Ceiram, an island of the Moluccas, Dutch East an island of the Moluceas, Dutch East Indies. It is situated to the N.E. of Amhoyna, and is divided hy the Isthmus of Taruno into Great and Little Ceram. Very little is known of the interior of the Island; a chain of mountains crosses it, the chief height being Nusa Kell (11,000 ft.). The land is fertile, and sago is largely grown. The exports are timber, frondred fish cdible persts and birds of the company dried fish, edible nests, and hirds of Paradise. Area ahout 6605 sg. m.

Ceramhycidæ, or Longicorns. family of colcopterous insects which have elongated hodies, long antonnæ with their inscrtion much embraced by the eyes, five-segmented tarsi and no rostrum. The species live on trees and herhaceous plants, and the larvæ are soft, whitish grubs, usually with-ont legs. More than 12,000 species are known, and many of them greatly damage trees, e.g., Saperda populnea, which attacks the aspen, and Elaphi-

dion villosum, the oak.

Ceramics, the technical name for the study of the art of pottery in its widest sense, though pottery nowa-days tends to designate only the coarser articles manufactured from clay, and porcelain is used to denote the finer articles. See POTTERY.

Ceramium, a genus of marine alga helonging to the order Ceramiacea. It consists of delicate, red, filamen-tous seaweeds, with the tips of the filaments incurved and a cortical hand at the nodes. C. rubrum is a

common species.

Ceramius, a genus of the hymenop-terous family Masaride, is related to Sinope.

The fore-wings of the species are flat. their antennæ clubhed, and their

homes are usually underground cells.

Ceram Laut Islands, a group of little islands belonging to the Malay Archipelago, and one of the Molucca group. These islands are situated S.E. of Ceram, the chief one being

mountainous.

Cerapus, a genus of amphipodous crustaceans, is shrimp-like in general figure, but the first pair of limbs are small, and the second constitute strong pincers; the antennæ are strongly developed. C. tubularis lives in a small cylindrical tube and exposes only the anterior part of its body. The species occur in ahundance in North America.

Cerargyrite, otherwise called Chlorargyrite, or Horn-silver, a mineral found in S. America and Australia. It is a form of silver ch oride, containing 75 per cent. silver and 25 per cent. chlorine. It is remarkable for malleahility and sectility, and is blackened

by light.

Cerasin, a solid tasteicss insoluble body obtained from cherry-tree gum. The soluble part of the 'aribin' is dissolved out by digesting with water and C. remains. When C. is heated with nitrie acid it yields mucic and oxalio acids.

Cerastes, a genus of vipers found in W. Asia and N. Africa. The males, and sometimes the females, have a horn-like process over the eyes, and this feature is responsible for the name of the species C. cornutus, the horned viper. The other species, C. vipera, has no horns and is said to have been the asp of Cleopatra.

Cerastium, a genus of Caryophyi-lacee, the representatives of which are called mouse-ear chickweed in Britain. The species contain no valuable properties and are quite un-

ornamental.

Cerasus, the name which Tournefort gave to a genus now usually included in *Prunus*, which belongs to the Rosacee. It was used to distinguish cherries from such fruit as plums, and it was divided into the True Cherries, Bird-Cherries, and Cherry-Laurels C. milagric the Cherries, and Cherries, and Cherry-Laurels. C. vulgaris, the common cherry, is identical with P. Cerasus; C. Padus, the common bird cherry, with P. Avium; C. laurocerasus, the broad-leaved cherry laurel, with P. Laurocerasus; C. Lustanica, the Portugal laurel, with P. Laurilanica See Printing Lusitanica. See PRUNUS.

Cerasus, a colony on the S. shore of the Black Sea. The colony gave the name to the cherry, a fruit which grew abundantly in the region. colony was originally founded from

Ceratina, a genus of solitary bees dog who guarded the infernal regions which helongs to the group Scopuling in Greek mythology. Described in peding of the family Apide, or Anthophila. Unlike most hees, the Theog. 311; Homer. Virgil), he is Ceratina has very little hair on its usually represented with three or two mon in Britain.

is a good example.

teeth in one jaw and the species have the species are fatal to man. only one lung. They are found largely | Cercamon (fl. 1100), a famous in the Trias and less seldom in the Provencal tronbadour, horn in Gas-Jurassic, and living examples occur cony. A tenso and three of his in the mud-fish of Queensland rivers, amorous lyrics survive, but the C. forsteri is commonly called the pastorelas, of which mention is made barramunda.

Ceratonia Siliqua, the sole species It is found wild in the countries skirtconsumption of human beings and domestic animals. They are said to he the tree which yielded the honey eaten by St. John the Baptist, and the seeds are supposed to have been the original of the carat weight.

Ceratophyllaceæ, a small and obscure order of dicotyledonous, aquatic plants, comprehends the single genus Ceratophyllum, comprising three species. The flowers are and diclinous, the males consisting of about six to twelve stamens and as many perianth leaves, and the females of several perianth leaves ovule and the fruit is an achene.

Ceratophyllum, the sole genus of Ceratophyllaceæ (q.r.), is represented in Britain by C. demersum and C. submersum, the hornworts. They are found submerged in ponds and ditches as rootless plants with muchdivided leaves, the old leaves being horny and giving them their popular name.

Cerbera, a genus of Apocynaceæ. flourishes in S. India, Ceylon, and Madagascar. C. tanghin has a fruit from which the tanghin polson is procured; it was formerly used in procured; it was formerly used in trials of persons convicted of crime, their guilt being established if it took effect, their innocence if they have long tails, ischial callosities, eheck pouches, and are often brightly eheck pouches, and are often brightly energy of the control of the con

the same group it bores in wood for He only attacked those who tried to its home. C. cœrulea is not uncom- escape from Hades. It was the twelfth labour of Hercules to hring Ceratites, a genus of fossil mollusc C. up from the lower world. Hevelius of the order Ammonoidea. C. nodosus gave the name also to a northern constellation.

Ceratodus (Gk. κέρας, horn; οδοίς. Cerherus, a genus of Colnbridæ, tooth), the name given to a genus of belongs to the suh-family Homalop-dipnoid fishes only a few of which are sinæ, and consists of viviparous, still in existence: many species, how- aquatic snakes common to the rivers ever, have been found fossil. The and estuaries of the E. Indies from body is long, compressed, covered Bengal to N. Australia. C. rhynchops with large, thin scales, there are two has large ventral scales, and none of

in the biography, is lost.

Cercaria, the scientific name apof its genus in the Leguminosæ, and plied to man, young Tiematodes in is known by the name of carob-tree. the genus Distomum, or liver-fluke. They hear considerable resemblance ing the Mediterranean, especially in to the adult form, but possess a long, the Levant, and is almost the only tree of Malta. The pods, called Algaroba, or St. John's bread, contain a sweet mentary. When the eggs of a Disnititious pulp and are used for the lomum hatch, the larve search for a consumption of human beings and bost of wedges and bost of wedges. host, e.g., water-snail, and when the C. stage is reached in the host's body they wriggle out of it, swim to another host or foreign body, lose their tails and encyst. In this form they may be eaten by a vertebrate, e.g. sheep, when they become mature and the larvæ once more continue the cycle.

Cercis, a genus of leguminous plants, flourishes in Europe, Asia, and America. C. siliquaetrum, the Judas tree, is so called from the tradition that the false disciple hanged himself upon one, flowers in the open air in Britain. In colour they are a bright and a single free carpel; there is one pale red, and in the spring they hurst

ont before a leaf appears.

Cercopithecidæ, one of the two families of Catarrhine Apes, is to be found only in the Old World. dentition is the same as that of the Simildæ, the internasal septum narrow, the tail is never prehensile. cheek pouches may or may not he present, and ischial callosities are to be seen. The genera are divided amongst the two sub-families Communications of the communication of the c piliceina, e.g. macaques, mandrill, green monkey, and Semnopilheeina, e.g. guerezas, langurs, or holy apes, and proboscis monkey.

monkey.

monkey, has a white heard.

made professor of theology and beliesthat the mind may undergo modifical electrics. He is principally famous for tion without being conscious of the his able commentaries on Virgil's processes involved. See Dr. Carpen-Bucolics and Georgies in 1608 and ter, Mental Physiology, hook ii. chan. on the Eneid in f612. fle also edited the works of Tertullian in 1624.

Cerdagne, the western part of the prov. of Roussillon in France during

the 14th and 15th centuries.

Cerdic (d. 5341), was king of the W. Saxons and the ancestor of all the kings of England except Canute. Hardicanute, two Harolds, and William the Conqueror. It is said that he was the ninth descendant from Woden! and he landed probably in Hampshire in the year 495. He founded one of the Teutonic kingdoms in Britain. When he landed he ailied himself with Aese and Acila and defeated the Britons on many occasions. In 519, with Cymric he founded the kingdom of the W. Saxons. In 530 he conquered the Isle of Wight.

Céré, St., a French tn. in the dept. of Lot. It is situated to the N.E. of Cahors. Pop. about 3500.

Cereals, Cereal Grasses, or Cerealia, form a group of gramineous plants which are cultivated for their edible sceds; the name is derived from Ceres, the corn-goddess of elassical mythology. Botanically speaking, the term has no definite limits, for the species of some genera are often cultivated for their grain, while their near allies are of no importance as food. The plants have been grown from the earliest times, and frequently the wild form from which they have sprung is unknown, as in the wheat and barley. The C. which are best known to the human race are wheat or Triticum, barley or Hordeum, rye or Secale, oats or Avena, Indian corn (maize) or Zea, millet or Panicum (also Sorghum, Setaria, Pennisetum), and rice or Oryza.

Cerebral Softening, see Diseases of

the Brain, under BRAIN. Cerebration, Unconscious. It is certain that all conscious mental processes are accompat

changes in the cerel of the Brain, under

Hamilton and Dr. that th---

go on ecious

diana, the Diana we may take the ordinary experience Cereyon, son of Poseldon and the king of Eleusis. He was a wloked tyrant and killed all strangers by wrestling with them. At last Thesens while thinking definitely of it. Acconquered him and put him to death. Cerda, Juan Luis de (1560-1643), a Spanish anthor and a theologian, conscionsness, goes on working autoborn and educated at Toledo where he spent the greater part of his life. garded as the physiological interpretation of the neycholo ical statement of suddenly recalling a name or an he spent the greater part of his life, garded as the physiological interpre-He entered a Jesuit order and was tation of the psychological statement

ter, Mental Physiology, hook ii. chap, xiii.; Sir W. Hamilton, Lectures on Metaphysics, vol. i. xviii. Cerepro-spinal Fluid, jies between the coverings of the brain and spinal cord. The outer covering is termed the dura-mater, while the inner one which follows the contours of the is termed the pia-mater. Between these two there is a third. the arachnoid, formed of loose con-The C. F. is connecting tissue. tained partly between the dura-mater and the arachnoid, but mainly between the pia-mater and the arachnoid. passes over all the brain and spinal cord, and acts as a carrier of waste products, and as a guard against shock to cither the brain or the spinal cord. It further maintains an equal pres-sure on the skull, being variable in quantity. It is a clear, practically colourless, liquid, being very similar to lymph. It is abundant in old people, for as the brain atrophies the amount of fluid increases. increases abnormally, it produces atrophy of the brain.

Cerebrum, see BRAIN.

Ceremonies, Master of the, a title reminiscent of the 'Governor of the Feast 'of the N.T. In the present day it is usually applied to an Individual who assumes control of affairs at any social function.

Gereopsis, a genus of anseriform bird of the family Anatidæ, is one of the least natatorial of its kind. C. Noræ Hollandiæ, the New Holland or Cape Barren Goose, is a handsomo

bird of grey brown plumage.

Ceres: 1. A vil. in Fifeshire, Scotland, 3 m. S.E. of Cupar. Pop. 1500.
2. A dist. and tn. in Cape of Good Hope, near the Hex R. valley and 75 m. from Cape Town. It has a good water supply and is a health resort.
Pop. of dist. 7000, of the tn. 1300.
Ceres, the Roman name of the

"- ek goddess Demeter. She was one * the greatest divinities and her

ic translated is Eurth-mother. She the sister of Zeus and goddess of may agriculture. She was mother of Perse-con-phone by Zeus. At Athens one of the this, great festivals to Demeter or C. was

the Thesmophoria which honoured her as a maker of laws, for agriculture is the beginning of civilisation.

Ceres, the name given to the first discovered of the asteroids. It was first seen by Piazzi at Palermo, Sicily, on Jan. 1, 1801, and observed by him till Feb. 13. There was some danger of its being lost again, as by the time the news of its discovery reached other astronomers in March, observations were impossible owing to it proximity to the sun. The difficult was overcome by the invention of new method of planetary orbit computation by Gauss. It is not visible to the naked eye being of the seventh or eighth magnitude.

Ceret, a tn. in the dcpt. of Pyrénées-Orientales, France. It is situated in the arron. of Perpignan, and lies to the S.W. of the city of the same name. It stands on the R. Tech quite close to the place where it is crossed by a bridge made of one stone arch. Pop. ahout 3000.

Cereus, or Torch-Thistle, a large genus of Cactaccæ common to tropical America and the W. Indies. Most of the species are erect, the stem is elengated, angular, seldom branched, and the fruit is often edible. Some of the members of the gonus bloom in the night-time and are sweetly scented, e.g. C. triangularis and C. grandiflorens. C. senilis, old-man cactus, is covered with silky white hairs, and C. giganteus is the tallest cactus in existence, reaching a height of over 70 ft. C. flagelliformis, the creeping C., has thin sinuous branches, and C. speciosissimus is noted for its beautiful purple and red flowers.

Ceria, a genus of dipterous Insects, belongs to the Syrphidæ, or hoverfly family. The body is elongated and somewhat ovate in form, black and yellow in colour, the general appearance is wasp-like. C. conopsoides is a species rarely found in Britain.

Cerignola, a tn. and episcopal see in the prov. of Foggia, Italy. It was near here that the Spaniards under Gonsalvo da Cordova defeated the French under the Duc de Nemours in 1503. Pop. 34,000.

Cerigo (anct. Cythera), the most southerly of the Ionian Isles. It is very mountainous, and eovers an area of 116 sq. m. The chief tn. is Capsali which lies at the S. end. Wheat, vines, pasture land is execllent. goats are exported to Greet numbers. The island was by the Phoenicians, and

brated for the worship of Venus, who Lima via Oroya. brated for the worship of Venus, who Lima via Oroya. It stands at an was said to have come up out of the altitude of 14,270 ft. Pop. 10,000. sea near this spot. Pop. 15,000.

temporary with the last years of St. John the Apostle. Early accounts all seem to agree that the province of Asia was the scene of his work, and Hippolytus states that he had his training in Egypt. The teaching of C. was that the world had been made by angels, and the only part of the N.T. he accepted was extracted from St. Matthew's Gospel.

Cerithium, a gastropod mollusc, is iny-

ranchial siphon, and a horny operculum. It occurs fossilised in great abundance.

Cernusci, Henri (1821-96), Italian economist, born at Milan; fought as a Republican (1848-49), and in 1850 settled as a banker in Paris. In 1871, having gained the hostility of the Communards, he left France and travelled in Egypt, China, Japan, England, and America. He was an advocate of bimetallism, and his works, mainly on money questions, include: on money questions, inclu Mécanique de l'Echange, 1865; lusions des Sociétées Co-opératives, 1866: Silver Vindicated, 1876; Le Bimétallisme à quinze et demi, 1881.

Cernusco sul Naviglio, a community situated 6 m. from Milan in Italy. Pop. 6500.

Cerocoma, a genus of coleopterous insects of the family Cantharide, is noted for the extraordinary antenna The British species of the males. appear on flowers in great numbers during the summer months, but tho larva of C. Schæfferi has been found preying on the food stored in a wasp's nest.

Ceroxylon, a genus containing five American palms, is romarkable chiefly for *C. andolicum*, the wax palm of the Andes. The plant grows to a height of about 180 ft. among the most rugged precipiees of the wild region it inhabits, avoiding tropical plains; its leaves are 18 to 20 ft. long, and the trunk is covored with a thick incrustation of wax which is made into oxcellent eandles.

Cerreto, a tn. and an enisconal sec in the prov. of Campanla, Italy, 16 m. from Benevento. It has a very fluo cathedral. Pop. 5600.

Cerro de Pasco, a mining tn. and cap. of dept. of Junin, 120 m. from Callao, in the highlands of Pcru. It olives, and cotton are grown, and the has silver and copper mines which are

rich, and there are smelting works. Coal also found near by. road connection with

Cerro Gordo, a pass between the

Cerinthus (c. A.D. 100), an early mountains in Mexico on the road from Christian heretie, who was a con- Mexico City to Vera Cruz and about

60 m. from the latter. The Americans why he is not hound to do so, that under General Scott defeated the certain penalties will he inflicted by Mexicans here in 1847.

Cerro Largo, a dept. in N.E. of Uruguay. It has the Rio Negro on the N.W., and Brazil on the E. Large herds of cattle are pastured on the grass-covered downs. Its area is 5753 sq. m. Pop. 45,000.

Certaldo, a vil. in the prov. of Tus-cany, Italy, 20 m. from Florence. It is the place where Boccaccio lived and

died (1313-75). Pop. 9000.

Certhia, a genus of passeriform hirds, consists of several species with moderately long curved bills, short wings, and stiff tail-feathers, which have large feet and strong claws welladapted for climbing about trees and rocks. The food consists of insects and their larvæ. C. familiaris, the tree-creeper, is an active little creature common in England, with a monotonous and often-repeated note.

Certhiidæ, a family of passeriform hirds known popularly as creepers. The species have a long, slightlycurved heak and there is a sharp claw on the hind toe; many utter shrill cries, e.g. Tichodroma muraria, the wall-creeper, but others have a sweet song, e.g. Certhia familiaris, true or

common creeper.

Certhilauda, a genus of the Alaudidæ, or lark family, of which the memhers dwell in arid plains and deserts. The plumage is dull-coloured, and the heak long and curved.

Certificate, in law, may comprise either: (1) Documents officially prepared hy a court for the purpose of notifying another court, or any one whom it may thereafter concern, of anything directed or ordered in the certifying court; or (2) signed and written statements by various persons admissible as evidence of the facts certified therein. Instances of the first kind are a bankrnpt's C. of discharge, a C. of conviction or acquittal on a criminal charge tried before a court of record, a C. of dismissal on a charge before a court of summary jurisdiction, and a judge's C. of costs. Instances of the second class are a public analyst's C., a C. of the registration of a British ship, an alien's C. of naturalisation, an architect's C. as to the due performance of a building contract, a C. of shares in a jointcompany constituting stock document of title to the shares, and a C. of deposit given by a banker for the purpose of certifying that the person named therein has placed a certain sum on deposit account.

Certification, in law of Scotland,

the indge. The defender may by custom obtain a special C. against the pursner (plaintiff) if the latter fails to prosecute an action after having commenced it.

Certiorari, a writ issuing from one of the superior courts, directing the judges or officers of an inferior court to transmit or cause to be certified (certiorari facias) records or other proceedings. The object of the removal is either that the judgment of the inferior tribunal may be reviewed by the superior court, or that the decision and the proceedings leading to it may take place before the higher tribunal. The crown office rules provide that indictments and proceedings from inferior courts in criminal matters may not be removed by writ of C. unless it is clear that a fair trial cannot be had in the inferior court, or that some question of law of unusual difficulty may arise, or that a view of the premises or a special jury in respect of which the indictment is preferred may be required for a satisfactory trial. The Central Criminal Court (q.v.) has a transferred jurisdiction by writ of C. from the various sessional courts within its jurisdiction. A writ of C. is demandable as of right hy the crown, but a private prosecutor must apply for leave to

ohtain snch a writ.
Certosa di Pavia, a Carthusian
monastery in Italy ahout 5 m. N. of
Pavia. This monastery was inaugnrated in 1396 by Giovanni Galsazzo Visconti, Dnke of Milan. The front exterior of the church is very elaho. rately decorated, and is considered one of the finest specimens of Renaissance work in Italy. In the interior of the church are many beautiful pieces of sculpture, among which are the tomhs of the founder, of Lodovico Moro and his wife Beatrice d'Estc. There are also paintings by Borgognone, Solari, Luini, and others-The monks manufacture a special liqueur. The monastery was dissolved in 1866, but it was made a national Italian monument in the year 1891. It is close to this spot that Francis I. of France was taken prisoner by the imperialists in 1525.

Cerumen, commonly known as earwax, is yellow waxy matter, and is secreted by certain glands which lie in the passage leading from the outer ear to the tympanum or drum. Its purpose is to catch particles of dust and other substances, and so prevent them from damaging the drum, and means the express or implied notice it further serves to lubricate the to the defender (defendant in English passage. Sometimes this is formed law) that unless he complies with the in excess, and it then causes deafness, order in a summons or shows a reason oliling and syringeing have in these the wax which has become hard.

Ceruse, or White Lead, see WHITE LEAD.

Cervantes - Saavedra, Miguel de 54 poet, and (154)Henares. nove to do, but His His father. were an apothecary surgeon, scems to have moved about the country during the early years of C.'s life, and it is, of course, highly probable that C. went with him. From 1566 onward the family lived in Madrid. In 1569 C contributed some poems to a memoir of Isabel de Valois, the wife of Philip II. In 1569 also we have indisputable evidence that C. was at Rome. Many theories have been put forward as to the manner of his arrival there, but the probability is that he served as a soldier in Italy and there entered the service of Acquaviva recently raised to the eardinalate. In 1570 he became a soldler in the regular service, and in 1571 he took part in the battle of Lepanto, serving on board the Marquesa. He was ill of a fever at the time of the battle, but Insisted upon fighting, and was thrico wounded. During the following years he saw active service at Navarine and Tunis. and sorved in the garrison at Naples and Palermo. In 1575 he received leave to return to Spain, and armed with letters of recommendation from those in authority he set out for home. He salled in a ship called the Sol, which was taken on the voyage by Barbary pirates, and C. and his brother, together with many other Spaniards, were taken to Algiers and there sold as slaves. C. became the slavo of a man called Dali Maml, and since he was supposed to be a man of considerable importance was somewhat closely guarded. In 1576 he tried to escape but failed, in 1577 his but was ransomed, amount sent was not sufficient to pay his ransom also, and in the same year he made another attempt to escape. He was captured and brought before Hassan Pasha, the viceroy of Algiers, by whom he was bought, and who seems to have regarded the 'maimed Spaniard' as a kind of mascot. C. still had many plans for escape, and his parents were inde-fatigable in their attempts to ransom hlm, and finally, after much difficulty, he was released and returned to Spain in Oct. 1580, reaching Madrid in the December of the same year. During tŀ ing he 6€ and P been vears 1583-87 ho produced many plays for most cases the prose is good. In 1614 the stage, vory few of which remain also appeared his most famous poem.

eases to be resorted to so as to remove | in existence at the present time. 1584 he produced Galatea, and in the December of the same year he married. He found, however, that he could not earn sufficient with his pen, although in the matter of dramatic plays it had been execedingly busy, and so in 1587 we find him engaged in gathering stores for the Invincible Armada. Between this date and tho end of the century his fortune sank lower and lower. The work which he was doing was uncongenial, the pay was often in arrears, he was unfortunate in the men he employed, was in constant financial difficulties, and his unbusiness-like methods cost him even the pittance which he was carning. was at least twice imprisoned during this period, and by 1600 his condition was that of extreme poverty. He had still contributed a little to the literature of the time, but practically between 1585-1603 his contributions may be regarded as a negligible quantity. In 1604, however, permission was granted C. to publish Don Quizote. It is possible that his work may have been read in MS. previous to this date, but it was first definitely published at the beginning of 1005 Per Outrate sprang into unive mee. Tho tho did book not a ind: but its essentially natural character. its broad survey of the types of tho time, and its comedy appealed at once, and the book became a huge success. Editions of it were pirated; it was printed at Madrid, at Lisbon. at Valencia. Within six months of its publication Don Quixote and Sancho Panza were regarded as proverbial types of character. His main object, as C. himself said, was to ridicule the romances of chivalry; the greater world-wide view of the book came only slowly and was not appreciated, because it was not seen by the greater number of his contemporaries. after the publication of his great book C. would seem to have remained poor. He had also at this time a number of domestic troubles, and in 1608 wo find him living in very poor circum-stances indeed. In 1609 he became a member of one of the Franciscan orders, and in 1613 he published and sold his Novelas Exemplares, a book which would itself entitle him to rank as one of the greatest of Spanish writers. It consisted of twelve short stories written in his own lnimitable stylo. Between this date and 1614, he published some plays, and some inter-ludes. The plays are acknowledged

by himself not to be good, but in

Viage del Parnaso. preface taunted C. with his poverty and ill fortune, and openly acknowledged that whilst he knew that he (the anthor) would not stand any chanco from a literary point of view in competition with C., he was determined to be the first in the market. The second part from the pen of C. was published in 1615, and was received with as much acelamation as had been the first. His last work, Los Trabajos de Persiles y Sigismunda, the author did not live to see published; he breathed his last in April 1616, the greatest of all Spanish novelists. Before his death his Don Quixote had been translated into many languages, and was destined to become one of the most popular of all books of all languages. Editions: Paris, 1850; Edinburgh, 1898-99 (edited by J. Fitzmaurice Kelly and J. Ormsby). Translations: Jarvis 1801; Smollett, Motteau. Life by Ashbee, Duffield, Fitzmaurice Kelly, and Calvert.

Cervera y Topete, Pascual (1833. 1909), a Spanish admiral and commander-in-chief during the Spanish-American War of 1898. He was born at Jeroz in the prov. of Cadiz. When the war broke out, he sailed for Cuba with secret orders to dofend Spanish interests. He reached Santiago on May 19, and was there blockaded by Admiral Sampson commanding the American fleet. The Americans tried American fleet. The Americans that to block the harbour by sinking the Merrimac, but falled to do so, and on July 3, the Spanish fleet endeavoured to escape. This was done deavoured to escape. This was done deavoured to be spanish but 1823 in face of public opinion, but age C.'s judgment. The result was the Americans captured or \$\epsilon\$

every Spanish ship, killed a third of a new expedition against the Turks. their crews, and C. was made a prisoner. When the war ended ho rcturned to Spain, where he was tried by court-martial, but honourably acquitted

Cervetri, or Cervetere, a vil. 20 m. W.N.W. of Rome. It is built in a corner on the inner side of the ancient Etruscan walls of the city Caere. The old city carried on an oxtensive trade old city carried on an extensive trace proof, but it is best works were and was very prosperous down to the ing by some. His best works were 13th century. It is noted for the a Roman battle picture, and 'The famous Etruscan graves, some of Death of Cicero.' Chilippe (1989-1444), also the proof of the solid rock. which are cut out of the solid rock.

Cervia, a community in the prov. of and 15 m. from the tn. of Ravenna,

In 1614 was | single genus Moschus, the musk-deer published a second part to Don of Asia; several extinct genera are Quixole, this time, however, from found fossil. The members of the the pen of one Avellaneda, who in his family are distinguished by their antlers, features possessed by no other ruminants, which are present in all male deer, but Moschus and Hydropotes, and in the females also of Rangifer, the reindeer. In the genus Elaphodus the antiers are devoid of any branching, but in Cervus there are several branches and there may be as many as forty eight points. A gall-bladder is present only Moschus, and In the family Bovidæ (q.v.) only one genus lacks this organ; all deer have two orifices to the lack-rymal duet, and only one genus of antelope has this feature; and in several minor points the C. may be shown to differ from the Bovidæ. The sixty or so species of deer are spread over Europe, Asia, America, and part of Africa, and are totally lacking in Australia.

Cervin, Mont, see MATTERHORN. Cervole, Arnaud de (d. 1366), also known as Archpricst. He was born at Perigord and was a leader of the French mercenary troops. He ontered into the service of King John in 1352 and fought against the English, especially distinguishing himself at the battle of Politiers in 1356. In 1357 ho invaded and looted Provence and compelled Pope Innocent VI. of Avig-non to pay a large sum of monoy. Charles V. of France made use of him in 1359 to disperse other bands, the Tard-Venus. In 1365 he gathered all his troops together on the Alsatian frontier with a view of queiling the

year by one occasion of

Cesalpino, see CESALPINUS. ANDREAS.

Cesari, Giuseppe (1568-1640), called Il Cavaliere d'Arpino. He was a painter in Rome of very high repute, and was the rival of Caracci and Caraveggio. His work, however, is not accurate, nor is the perspective good, but it is considered very pleas-

mo. He was

He learnt law

tally, situated on the Adriatie. It has a beantiful cathedral. Pop. 8000.

Cervide, the deer family, of the runninant division Pecora, is divided into the sub-families Cervina and Germany as papal legate to get Mosehing. the latter consisting of the

In 1444 they fought the Turks at Varna, and both C. and the king were killed.

Cesarotti, Melchiore (1730-1808). noble but poor family. He became a professor of Greek and Hebrew at the university in his native town in 1765, and held that position all his life. When Italy was invaded by the French, be wrote in defence of their cause, and Napoleon L made him a knight of the iron crown, and gave him a pension. By way of expressing his gratitude he penned a very ful-some poem to Napoleon called Pronea. His most important original work was Saggio sulla Filosofia delle Lingue, which he wrote in 1785. this be advocated a free develop-ment of language as opposed to the teaching of the Della Cruscan Academy at Florence. He also wrote a book called France in the called France in book called Filosofia del Gusto. His great work of translation was Macpherson's Ossian, done in 1763, but he produced a completer edition in 1772. This was thought much of in Italy, and it exercised a great influence in that country and elsewhere. His introductory preface was translated into English and edited with notes by J. M'Arthur in 1806. He also attempted, by war of translation, a prose version of the Hind, which be followed with a long verse paraphrase running into 10 vols., entitled La Morte d'Ettore. In 1772 be translated some of Voltaire's plays be translated some of Voltaire's plays and Gray's Elegy.

Cesarwitch, see TSAR.

Cesena (anct. Casena), a tn. and besens (another personal territory) to the prove of Forli, Italy, 17 m. from Rimini. It has a splendid Malatesta library and also a catbedral and a citadel. The people cathedral and a citadel. The people spin silk and mine sulphur, and the town is noted for its wine and hemp.

and his followers. He was present at 1848, in the Crimean War, and in the the battle of Taus in 1431. He became president of the council of Basel in 1431, but as his propositions were 1855 be was made American consul not agreeable to the council he resigned in 1438. The King of Poland, he began his excavations at Dall, Ladislaus III., had conquered the Curium, and Larnaca. The Museum Turks and made a treaty with them, of Art in New York bought nearly when C. approached him as papal all his collection, and he was appointed to nhis word. The result was disaster. a book entitled Curius, its Ancient In 1444 they fought the Turks at Cliffes. Tooks and Temples

a book entitled Cyprus, its Anciert Cities. Tombs. and Temples. Cessio Bonorum, in Scots law, a system which enabled any person who was in prison for civil debt, or an Italian writer, born in Padua of against whom such a writ of imprisonment had been issued, to present a petition setting forth his inability to meet his liabilities and his willingness to convey the whole of his property to a trustee for the benefit of his creditors. C. B., like the old insolvency system in England, was characterised by this important difference from mercantile bankrupicy, that the person who obtained the privilege was not discharged from his debts, but only from proceedings against his person. Since the Debtors Act 1880, which virtually abolished imprisonment for debt, the process of C. B. is applied to sequestration (in English law, 'adjudication ') in minor bankruptcies, for the

purpose of reducing expenses. Cession (Lat. cedere, to yield), the name given in international law to the formal transfer of territory from one state to another. This may be the result of a gift, an exchange, or a sale, but is more usually due to the fortune of war, most Cs. having been exacted as the price of peace between war-ring nations. The consent of the people of the ceded territory is not essential, but deference is often paid to their wishes. Their civil and political rights are generally deter-mined by the treaty under which the C. is made. Apart from special stipu-lations, the citizens transfer their allegiance from one sovereimty to the other, obtaining their share in the rights of the new state. Old laws continue valid until altered by the new sovereign. Titles to property and personal relations remain unchanced. If the citizens should suffer loss of property by the C., the ceding state town is noted for its wine and hemp, is not bound to indemnify them. The French defeated the Austrians Usually a clause in the C. treaty deals history in his Inferno. Pop. 42,000. Commentaries on American Law. by Cesenatico, a community and seather the Adatatic in the prov. of International Law. Lawrence, Principles of International Law. 1900. Cestoda, or Cestodd Worms, form Pop. 7500.

Pop. 7500. Cestoda, or Cestoid Worms, form an order of Platyhelminthes, or flat (1832-1904). the explorer of Cyprus, shape are known as tape-wormsborn at Rivarolo, near Turin. He They are all parasitic and only one fought in the war with Austria in genus reaches the adult stage outside

the allmentary canal of vertebrates. Ish-like in form, having a tapering The tape-worm consists of a head, or scolex, which attaches itself to the lining of the canal by suckers or powerfol locomotion, there are no hooks, and most of the species then posterior limbs, and the anterior show a long chain of segments, or limbs are converted into paddles proglottides, each of which, when separated from the others, lives as an independent animal. A few species, however, have no external segmentation, and do not break off in this way. In no species are there sense-organs, vascular system, mouth or alimentary canal, food being absorbed by the body from the host, but there are a nervoos and a well-developed ex-cretory system. The life history is curions. The detached proglettides pass out of the host, and the eggs are scattered. These are swallowed by a new host in its food or drinking-water and the embryos eventually bore into the blood-vessels and are carried to the various organs. Therenpon they change into a cystic or bladder-worm, and develop a scolex, and if the animal in which they live Is eaten by another the scolex passes into this final host, enters the all-mentary canal, and matures. Among the vertebrates attacked by the C., are man, dog, sheep, ox, horse, hare, rabbit, squirrel, fox, plg, rat, mouse, frog, and several birds. Bolhriocephalus latus, the largest species preying on man, man with a length of thirty feet; Commence of the largest lates and the largest species preying on man, man with a length of thirty feet; Commence of the latest late

Port Jackson shark.

Cestus: 1. Thongs of leather which the Greek and Roman boxers were on their hands. They were not used as are modern boxing gloves to soften the hlow, but to make it harder, as these thones wero often weighted with iron and lead. 2. The name given to the magic helt of Aphrodite (Venns) which made overybody who beheld her fall in love with her.

Cestus Veneris, or Venus's Girdle, is a species of Ctenophora found in the Mediterranean and Atlantic. The body of this ecclenterate is much compressed, and hecomes ribbon-like In shape; it often exceeds one yard in length. C. pecienalis resembles it in appearance, but has a patch of orange at each end of its body. Cetacea, a large order of mammals,

eonsisting of whales, dolphins, and porpoises, but the purely aquatie They are species. erroneously with fishes.

tail expanded into horizontal flukes which aid the creatures in their which are unprovided with external digits. They are unlike fish in nearly all important characteristics, such as that they possess warm blood and breathe air; in connection with the latter feature it may here be mentioned that in sponting whales do not blow sea-water, and any water that can be seen is the condensed vapour of their breath. Among the C. a hairy covering is always absent, but it is represented usually by a very few bristly hairs about the mouth easily counted; the warmth of which they would be deprived by the absence of the covering is amply replaced by a thick layer of blubher under the skin. The head of the animals is always very large, the nostrils are seen as a single or double hlowhole placed generally far back on the skull, the bones are spongy and full of oil, teeth are few or absent, there is no collar-bone, the eyes are tiny when compared with the bulk of their owner, and there is no external ear. The females usually bring forth one at a birth; their two mamme are in-minal in position and are adapted to the function of feeding the young in dangerous to human beings who are the least of the words, and a lew are to not vegetarian in habit.

Cestracion,
Cestracionidee

Cestracionidee

Conhillippit is known popularly as the probably crushed by their own weight.

In diet all cetaceans are carnivorous, in the control of the seast of the words and a lew are to he carnivorous, and a lew are to he carnivo their chief food being euttle-fish, crustaccans. some even d whales.

gentle and docne. The minimum size of one of these animals is about 3 ft., and the maximum is the enormous length of 85 ft. Fossil C. have been found in the Eocene, Miocene, and Pliocene, and the sub-order Archeoeetl comprises a singlo genns, that of the extinct Zeuglodon. The two sub-orders of living C. are the Mystacoceti or whalebono whales and the Odentoceti or toothed whales. In the former division are to be found the species known as right-whales, rorquals, the grey whale, the blue whale, and the hump-back whale; in the latter occur the sperm-whales, hottlenose, dolphins, porpoises, tho narwhal, white whale or beluga, the habit of its members has often led killer, and the pilot whale. See them to be classed vulgarly and separate articles for products and

Cethegus, the name of a patrician Roman family of the Cornolian clan.

Marcus Cornelius Cethegus twice censor, in 209 B.C. and 204 B.C. respectively. He was noted for his rhetoric and correct manner of speak-

ing. He died in 196 B.C.

Caius Cornelius Cethegus was onc of Catiline's companions in his conspiracy of 63 B.C. He stayed in Rome intending to muraer one intending to muraer one him senators, but Cieero arrested him leath Is said senators, but Cieero arrest and had him put to death. to have been a worthless and violent

man.

Cetin (C₂H₆₁O₂), a fatty, crystal-line substance, insoluble in water, but soluble in alcohol and ether. melts at 49°C. and volatilises at 360°C. It is the chief constituent of spermaceti, a wax found in the body of the sperm-whale and other eetacca. C. is employed as an emollient, and for the manufacture of candles, etc.

Cetinjo, see CETTINJE

Cetiosaurus, a genus of large fossil Dinosaurs in the order Sauropoda. This reptile was four-footed and herbivorous; its remains occur in the Middle Jura of England, but both skull and cervical vertebræ are

unknown.

Cetonia, a genus of coleopterous insects of the family Scaraboldee. inhabits warm lands. C. aurata, the rose-chafer, is a beautiful bright green beetle. Both larva and imago feed on vegetable substances, but C. floricola is said to live in ants' nests in the larval state and to eat the young.

Cetotolites (Gk. kŷros, whale, ovs, ear, kídos, stone), the parts of the ear-bone of a whale found fossi in great abundance in the Upper Tertiary on account of their hardness. They have been used in the manufacture of superpliesphate of potash

for artificial manure.

Cetraria Islandica, or Iceland Moss, a frutleose liehen promised mostly from Norway and Iceland, but also a native of the higher mountains of N. Britain. When dry, it is almost odourless, and the tasto is bitter and unpleasant, but when the bitter principle is removed it becomes a wholesome and palutable food. It must first be boiled in water, upon which it becomes a mucilaginous fluid; unless steeped it is offensively bitter, and its purgative properties have given it the name of Lichen catharticus.

Cette (anet. Setion), a seaport in Hérault, France, and situated 17 m. S.W. of Montpellier at the entrance to the Thau lagoon, and a few miles E. of the meeting of the Canal du Midi with the Mediterranean. It has an excellent between the tasks an excellent harbour, and its sea- to Spain and situated to the E. of tho

bathing and mineral aprings form a great attraction to visitors. There is an extensive fishing industry and the principal trade is dono in liqueurs, bcer, wines, and brandy, all made in the town. The town is of Greek foundation. Pop. 34,000.

Cettinge (from Settinya), cap. of Montenegro and 12 m. from Cattare in Dalmatia. It is the residence of the king and the see of the bishop. It is situated in a plain with lime. stone mountains lying round. surrounding country is very bare and rocky, but here and there are rich patches of soil. The nearest port is

stellation situated below Pisees and Aries, and was supposed to represent the sea monster about to devour Andromeda. Although it covers a large expanse of sky no star in it is of a brighter magnitude than the third.

Mira Ceti is a long period variable.

In about 332 days it increases in brightness from below the ninth magnitude (when it is only visible with a therecapted of the conditions). with a telescope) to about the second magnitude, and then declines. Its period varies from 320 days to 370, and its maximum and minimum luminosity is not invariable. It is historically interesting as being the first recorded variable, its fluctustions being noticed in the first instance by David Fabricus in 1596. C. con-tains many of the so-called 'white' nebulæ, one of the most impertant being discovered by Caroline Horschel in 1783. It was at first thought to be elliptical in form, but its true shape has now been shown by Dr. Roberts to be spiral.

Cetywayo, phonetically spelt Ketshwyo (c.1836-84), the son of the Zuluking Panda, and whom he deposed in 1856. Ho defeated his brother Umbulazie, and then his right to the throne was acknowledged by Natal on the conditions that he dispersed his troops and gave up his barharous mode of governing. It was owing to the Transvaal being annexed in 1877 that England had to enforce these measures, and in 1879 C. was made a prisoner by Major Marter and lodged in Cape Town. Ho was brought to England in 1882, but through pressure of public opinion ho was restored as king of the Zuhis again in 1883. However, very soon after he returned to his native land he was attacked and keaten by the college of and beaten by one of his old enemies named Unibers, and he had to fly to shelter in the native reserve.

Ceulen (or Keulen), Van, see VAN CEULEN.

Ceuta, a fort and scaport belonging

to be the ancient town Abyla, one of the mythical Pillars of Hercules. It consists of an old town right on the tongue of the peninsula, and a new town running up the hills at the back. It is a bishop's see, and has a fine 15th century cathedral. The fortifications were made stronger at the end of the 19th contury, and it is now suggested that C. should be made into a first-class fortress. This will be done in spite of the bills commanding the situation. C. was a very busy town once and did a great trade both under Roman and Arab rule. It was conquered by King João I. of Portugai in 1415, but passed into the hands of Spain in 1580. Pop. 13.000.

Ceutorhynchus, a genus of coleop-terous insects of the family Curcullonidæ, is a small weevil with many species, which frequents various

plants.

Cevadilla, Sebadilla, and Sabadilla, are various Spanish-Mexican names applied to liliaccous plants containing veratrin. Scheenoeaulon officinale is one of these plants and the alkaloid is derived from its dried fruits; Helonias officinale is another species, a native of N. America; Veratrum album, often known as white hellebore root; and V. sabadilla are gathered for the veratrin-yielding rhizomes. alkaloid is a grey, amorphous sub-stance of irritating and poisonous properties; it is used medicinally as a sedative and irritant, and in cases of rheumatism as a stimulant.

Cevadine, an alkaloidal substance found in hellebore and sabadilla. It occurs in white crystals, soluble in water, alcohol, and other. In medicine it has been used to expel worms,

but it is very poisonous. Cèvennes (from Celticroot, cf. Welsh cein, ridge), an important mountain range in S.E. France, extending (in n Canal du to the S.

330 m. long, forms the S.E. border of the Central Plateau, and the water Garonne.

nfined to ending at

Montagne de Lozère. In its narrowest signification it means only those mountains E. of the plateaux of the Causses, beginning with Lozère

Moroccan peninsula, which juts out Lozère (Lozère, Pic de Finicis, Mt. N. towards Gibraltar. It is supposed Aigoual). The Loire, Allier, Tarn, Aveyron, Gard, and other rivers, rise in the C. In the N.E. a railway from Nimes crosses the range by Alais to the valley of Allier and Clermont. The central mass lies in the departments of Ardècbe, Lozère, Haute-Loire. The rocks are chiefly metamorphic and granitic, volcanic in parts. The C. have been the scene of much religious warfare. Tho revolt of the Camisards occurred here, where many Protestant families found refuge after the revocation of the Edict of Nantes (1685). Also an old district of France, capital Mende. See Stevenson's Travels in the Cévennes, 1895; Ribard, L'histoire cérénale d'après des documents, 1898; Porcher, Le Pays de Camisards, 1894. Ceylon (Sanskrit Sinhala), island

in the Indian Ocean, crown colony of Great Britain, separated from India by Gulf of Manaar and Palk Strait, but virtually joined to the mainland by the submerged coral reefs and sandbanks, known as Adam's Bridge, and by Rameswaram Adam's Bridge, and by Ramcswaram is is. Length from Dondra Head to mains a length from Dondra Head to mains a length from 20 to 140 m. Area over bum, 25,000 sq. m. The island is mountainous in the S., expanding into a wide plain towards the N., still partly impenetrable jungle. The loftlest peak is Piduru Talagala (Pedronous tallagalla), over 8000 ft; the best known is Adam's Peak, over 7000 ft. There are nine provinces for administrative purposes, subdivided into twenty-two districts. The provinces are: Northern, North-Vestern, North Central, Eastern, Southern, Uva, and Sabaragamuova. Of these the Sabaragamueva. Of these Western, Central, and Soutborn have the largest pop. A British governor is appointed by the London Colonial Office, with an executive council of five, and a legislative of seventeen members (since 1831). The longest rivor is Mahavilla Ganga, flowing into the sea by Trinkomali Bay. There are no lakes. The S.W. is damp, but N.E. and S.E. require irrigation, and remains of vast reservoir basins for this purpose are found in the N. The climate is tropical, but the heat is tempered by the surrounding sea; unhealthy in the coast districts it is fine in the interior hilly parts. Gausses, beginning with Lozère plateau and ending with those round Aigonal at the head of the Gard valley. The large group is divided is into two divisions: N., with Monts du Charolais, Beaujolais, Lyonnais, Kandy, Kalutara. Perideniya, and Yivarais (Mt. Mêzenc), and S., with Montagnes Noires, Cévennes Proper, Garrigues, Monts de l'Epinouse and

The stiff fibres of the palmyra palm resources plumbago (graphite) and talc are of most commercial value; others are gold, iron, and precious stones, notably rubies and sapphires. Among native animals are tuskless elephants, bears, panthers, various kinds of deer and monkeys, leopards, and buffaloes. There are countless kinds of ferns and flowers, innumerable species of birds, and many reptiles, including crocodiles. C. has been called the 'pearl garden' of the earth, and the pearl-oyster fisheries on the coast sometimes yield a large income. These fisheries were leased to a private company, 1905. For further details see Herdman, Report on the Pearl-Oyster Fisheries (1903-4). C.'s chief imports are rice. cotton manufactures, and coal. In 1909 the leading exports were plumbago, cocoannts, coco, areca-nnts, and tea. C. rubber, of the Para variety, also commands a high price. 49 per cent. of the exports went to the British Isles (1909), and 26 per cent. of the imports came from there. dominant race, forming about twothirds of the pop., are the Singhalese archeology i froi in C. about the orn containt and Etudes s Singhalese kings ruled from 543 B.C. d'après les

Singhaces to A.D. 1815. Their language a modern 1874. He Indian dialect, is spoken in the S. L'Egyptologie, an archwological paper, Tanul (a Dravidian dialect) in the hetween the years 1873-77. Maspero Tamil (a Dravidian dialect) in the netween the years 1513-11. Maspero N. The Singhalese are Buddhists, the wrote his blography, which was atreal introduction of Buddhism into tached to an edition of his Eutres the island dating from the 3rd centrology. Dierses, in 1899.

Chabert, Philippe (1737-1814), a India and established it under Kinst French veterinary surgeon, horn at Tissa (a contemporary of Asokal Lyons; studied in the veterinary See Copleston, Buddhism in Cellon. school there, and in 1766 obtained an 1899. Vert in importance are the important past at Alfort Foully here.

heing hetween Colombo and Kandy. thought to be of Arabic descent. The soil is mostly fertile, and vegeta. They are the most energetic and intion very luxuriant. The time of telligent. A few half-civilised Veddahs greatest heat is hetween the two monsoons, from February to May. Forests abound, and also plantations in C., and 23,000 Eurapeans live Forests abound, and also plantations in C., and 23,000 Eurapeans live the blight of 1870 (*Hemileia vastativa*), the cultivation of coffee has own most of the tea-plantations. been largely replaced by that of tea. Much of the work is done by imported other products are rice, cocoannt. coolies, who usually return to India Other products are rice, cocoannt, coolies, who usually return to India cinnamon, cardamoms, and tobacco. after a few years, but the proportion of Singhalese is increasing. In 1901 are prepared as a substitute for over half the pop. could neither read hristles, and the palmyra is also used nor write. The Portuguese reached for food. Ceylon provides Europe C. 1505, and established commercial with its largest supply of cinchonal settlements. They were driven away and is third among the tea producing by the Dutch, 1656. In 1795 C. passed countries of the world. Of its mineral, into English possession, being first annexed to Madras; made a separate colony, 1801, the Kandyan kings finally disappearing voluntarily, 1815. The Roman and Greek name for C. was Taprohane (copper-leaf). Pop. ahout 4,000,000. See Tennent, Ceylon, Skinner, Fifty Years in Ceylon, 1801; Cave, Ruined Cities of Ceylon, 1801; Cave, Ruined Cities of Ceylon, 1801; and The Book of Ceylon, 1908; Ferguson, Ceylon in 1903; Müller, Ancient, Inspirations Ancient Inscriptions in Ceylon, 1883-4; Hacckel, A Visit to Ceylon, Parker's Ancient Ceylon, 1909; Willis's Ceylon, 1908. For language and literature see Alwiz, Sinhalese Bandbook in Roman Characters, 1880; Geiger, Lilleratur und Sprache der Singhalesen, 1901. C. is also the name of several post-villages of N. America.

Cezimbra, a tn. on the coast of Portugal, 20 m. S. of Lisbon. Fishing

extensive. Pop. 9000.
Chabas, François Joseph (1817-82),
a French Egyptologist. born near a French Egyptologist, born near Briancon. In 1873 he was offered the chair of E

toire de la . and Etudes & .

1892. Next in importance are the important post at Alfort, finally becamils (a Dravidic people), forming, coming director of the school there, about a quarter of the pop. They are in 1780 he succeeded Bourcelat as mostly adherents of Brahmanism, director and inspector of veterinary These Tamils, or Malahars, are probably sprung from early invaders of C. who came frequently from S. France and numerous of the Institute of Elindustan. The remainder are societies, and wrote several rearned mostly Mohammedans or Moormen.

Chabeuil, a French tn. in the dept. of Drôme. It stands on the Veoure. S.E. of Valence. It is supposed to be the ancient city of Cerebelliaca. Pop. ahout 3000.

Chablais, a former prov. of Savoy (old division of Annecy), hordering on Lake Geneva. Now included in French dept. Haute-Savoic. arrond. of Thonon. In the middle ages it had counts and dukes as rulers.

Chablis, French tn., dept. of Yonne, about 9 m. from Auxerre, on R. Serein. Noted for famous white wine (chahlis) produced near hy.

about 2300.

Chabot, Charles (1815-82), an English lithographer and caligraphic expert. He was born at Battersea and died at Clapham. His skill as a calilaw courts; he gave evidence in the law hole in Brussels in 1886. he died he left his opera celebrated Roupell and Tichborne unfinished. cases. He identified Sir Philip Francis as being the author of the Letters of Junius.

Chabot, François (1759-94), a French revolutionist. Originally a Capuchin monk, but hecame an atheist of corrupt and vicious character. In 1790 he became a member of the Con-stituent Assembly, and gained great power as an extreme and fanatical democrat, instigating many of the worst excesses committed by the party, and heing noted for his daring, olasphemy, and disgusting immorality. He was finally guillotined by order of Rohespierre.

Chabet, Philippe de (1480-1543), a French soldier and Count of Charny and Bnzançois. Known as L'Amiral de Brion. In 1524 he saved Marseilles from the Imperialists, and in 1525 was made a prisoner at Pavia. He was made governor of Burgundy and admiral of France in 1526, after which he conquered the greater part of Picdmont. He later on fell into disgrace and was imprisoned for two

years in 1539.

Chabrias famous (Xaβρίας), a Athenian general, commander of army as early as 392 B.C. In 390 took part in the Thracian expedition of Thrasybulus. In 388, on his way to is also the governing centre, and is Cyprus to belp Euagoras against the 400 m. N. of Buenos Ayres. The area Persians, he defeated the Spartans at Ægina. In 378 C. commanded Spartans and against the Agesilaus from Bœotia, inventing the famous manœuvre of receiving a charge on the left knee, with shields resting on the ground and spears because the state of t levelled at the foe. In 376 he won the naval victory at Naxos; 373 went with Iphicrates to Corcyra; 369 fought against Thebans in Peloponnesus, repulsing Epaminondas before Corinth; 367-6 was accused of treason over the Theban capture of Oropus,

but was acquitted. In the Social War (357) he joined Chares in command of the Athenian fleet, and was killed as trierarch at the siege of Chios. enophon,

itæ Iphi 1845.

el (1841-1894), a French musical composer. He was born at Ambert in the dept. of Puy-de-Dôme. In 1877 he wrote L'Etoile, and in 1883 Dix Pièces Pittoresque for the piano. He was chorusmaster at Château d'Eau in 1884-85 where be played at concerts. While there he assisted Lamoureux to pro-While duce two acts of Tristan and Isolde. He also brought out La Sulamite in 1885, and also selections from his opera Guendoline, which was done as

Chabron, Marie Etienne Emmanuel Bertrand de (1806-89), a French general and politician, born at Retournac (Haute-Loire). He served with distinction in the Crimean War,

the battle of

German War

a general of division by Gambetta for the relief of Blois. At the close of the war he was elected deputy for Haute-Loire, and later became a senator.

Chachapoyas, or San Juan de la Frontera, a tn. in Peru, cap. of Ama-zonas, situated 80 m. N.E. of Caya-

marca. Pop. 6000.

Chacma, or Cynocephalus porcarius, the largest species of baboon (q.v.), belonging to the family Cerconithecide (q.v.), and is nearly allied to the man-It is a native of S. Africa, and in habit it is gregarious. Although largely vegetarian in dict, omnivorous at times and is fond of insects.

Chaco, a ter. in the Argentine Republic, which is part of the Gran Chaco, S. of the Bermejo R. Timber , hut cattle

also carried

400 m. N. of Buenos Ayres. covers 52,471 sq. m. Po Pop. about

Chaconne (Fr.), a dance, propably of Italian origin. It was once ex-tremely popular, but now it is utterly forgotten and neglected, possibly because the movements thereof were slow and stately. The music was generally a number of variations on a ground bass of eight bars. Handel, and Porpora all wrote music for this dance, of which the C. of Bacb for solo violin is the most famous.

Chad, the name given to the young

of a fish—the common sea-bream—by the fishermen of Devon and Cornwall.

Chad, St., or Ceadda (d. 672), was born in Northumbria and was a follower of St. Aidan. He became Bishop of the E. Saxons in the year 664, Bishop of York in 666, and then Bishop of Mercia in 669. He was a

holy and very austere man. Chad, Tchad, or Tsad. Lake, rather two large but shallow lakes, surrounded by swamps, in W. Africa, situated between Bornu, Bagirmi, Kanem, and Wadai. The total length while from E. to W. it is estimated at from 60 to 130 m. The lake is studded with islands, and the depth is from 8 to 15 ft. The area varies according to the season, if it is wet it covers about 20 000 sg m and it dwn 10 000 about 20,000 sq. m., and if dry 10,000. Lake Chad gets most of its water from the Shari, but it also gets the waters of the Yobe and Ycou. There are many fish to be found there, and it is also frequented by

inhabited by the piratical Baduma

and Kuri tribes.

Chadderton, a par, and tn. of Lancashire, England, suburb of Oldham. Has important cotton and chemical manufactures, and coal-mines near. Pop. ahout 28,000.

Chaderton, Laurence (c. 1536-1640), an English theologian, born in Lan-cashire; studied theology at Cam-bridge, in opposition to his father, who wished him to enter the law; and in 1584 was chosen by Sir Walter Mildmay as master of the newly ro-founded Emmanuol College. Ho as-

sisted in the A.V. of the Bible.
Chaderton, William (c. 1540-1608),
an English divino. After holding several important positions at Cambridge, he became bishop of Chester in 1579, being also appointed a com-missioner for the discovery and conviction of popish recusants. In 1595 ho was appointed bishop of Lincoln, where his efforts were still directed

towards conformity.

Chads, Sir Henry Ducie (c. 1788-1868), British naval commander, son of the naval captain (d. 1799); left Royal Naval College, Portsmouth, Royal Naval College, Portsmouth, 1803. to join the Excellent, under Captain Sotheron. In 1810 he took part in the operations off Mauritius, being once of the party that seized the Isle de Ia Passe (src James, Naval History, 1860). First lieutenant of the Java under Captain Lambert when captured by United States frigate Constitution, 1812. Tried by contranartial for loss of this ship, 1813. but honourably acquitted. but honourably acquitted. Commanded the Arachne, 1823; the

Alligator, 1825, throughout the first Burmese War (1826). Commander of Andromache, 1834-37, in E. Indies. In 1845-54 captain of gunnery-ship Excellent at Portsmouth. Served in the Baltic, 1854; commander-in-chief at Cork, 1856-58; vice-admiral, 1858; admiral, 1863. He warmly supported naval charities at Southsea. His son (1819-1906) was also an admiral. See O'Byrne, Naval Bio-Öld urrows), of 1812. 1869;

Chadwell, St. Mary, par. of England, in Essex, on R. Thames, 104 m. from Romford, 14 m. from Tillury Dock station. Contains the E. and W. India deep-water docks. Pop. 6429.

Chadwick, Sir Edwin (c. 1801-90), English social reformer and statistician. He came from Manchester to London, studying at the Inner Temple, ealled to the har, 1830. He early studied social, sanitary, and political

prevention of pauperism In 1828 his article 'On nee' in the Westminster

Review appeared; 1829 a paper 'On Preventivo Police' in the London Review. These won him the notico and friendship of Jeremy Bentham. In 1834-47 he became secretary to the Poor Law commission. From ovidenco collecta

wrote Report dition of the ... Great Britain

of 1833 laid the foundations of later systems of government inspection. A public health Act was passed in 1848, and a general Board of Health appointed. C. was a member from 1848-54. He was one of the founders

economy questions (c. 1844). C. advocated competitivo examinations for government offices. See Richardson's Chadwick, 1885; Dictionary of National Biography, Supplement i.; Mackay, History of the English Poor Law, 1899.

Cheerea, Caius Cassius, Roman tribune of the practorian cohort In Caligula's reign. He formed a conspiracy and assassinated that emperor, 41 A.D. Shortly afterwards he was executed by Claudius. See

Taeltus, Annales.

Cheronea an ancient Greek city (Naiphiesa) of Besotia, famed for the victory of Philip II. and Alexander of Macedon over Athenians and Thebans, 338 B.C.; also for Sulla's defeat of the army of Mithridates, 86 B.C. This city was Plutarch's birth-

place. Its rulns are near the present Arenicola, the lob worm; Approalie, village of Kapriena, consisting of a the sea-mouse; and Chaloptems; temple, an aqueduct, and one of among the latter occur all the earththe most perfect remaining Greek worms, e.g. Lumbricus and Megastheatres. A colossal lion over the colides. sepulchre of the Bootians who fell in 338 B.c., mentioned by Pausanias, Ît ix., was found much mutilated. was restored and re-creeted, 1905. worm which inhabits a long tube. C. See Murray, Handbook for Greece, varionedalus is found on British coasts 1884; Thue. iv.; Plutarch, Alexand in all European seas. Thue iv.; Plutarch, Alex and in all European seas, and Sulla in his Lives; Chaler, the name applied, Anlike Schlachlfelder in to beetles of two family awler Kromayer, Griechenland, 1903.

Chærophyllum, a genus of Umbelflourishes in N. lands of ilferic, C. tumulum. temperate climate. closely allied to the eclery, parsnip, and carrot, is the chervil which is

sometimes used as a pot-herb. Chætoderma, a genus of gastropod molluses, forms by itself one of the two families in the division Aplaco-The species, of which there are three found in the Atlantic, Aretle, and Pacific Oceans, are cylindrical, covered with bristly spicules, and the

sexes are separate.

Chætodon, a genus of spiny-rayed fishes of the family Cheetodontide or Squamipennes. The body is laterally compressed and elevated, the snout is fairly long, the mouth is furnished with closely-set rows of long, slender, bristle-like teeth, and there is one dorsal fin. The species are often re-

metallic blues

and greens. Their food consists of small animals, and they are very The numerous adroit fly catchers. species often frequent coral reefs, and are most often found in the Indian and American seas, the Atlantic and Pacific Occans.

Chætognatha, a very small division of marine animals, consisting of the three genera, Spadella, Khronia, and Sagilla, the arrow-worm. The species are fins

are carnivorous. The largest of these ereatures is about 21 inches.

Chætopoda, a class of Annelida, or Chagres River, in segmented worms, in which the se or bristies, are very noticeable. chatopods are then divided into

marine, with extremely few exceptions, and in most of them the sexes Among the former may he mentioned the genera law at Columbia, becoming barrister, or live underground.

Chætopterus, a genus of annelid which is noted for its green phosphorescent glow. It is a curiously snapod

Chaier, the name applied popularly to beetles of the family Scarabeide which consists of about 13,000 species. The males have norms, and many of the perfect beetles and larvae are Tho destructive to vegetable life. term is usually compounded with another, e.g. cockehafer, barkehafer, rosechafer.

Chaffineh, or Fringilla cælebs, a pretty, active little bird of the family Frinzillide, and is related to the sparrow, canary, and buntings. The cock-bird is a favourite songster, and from his note the Germans call him fink, from which we derive the word finch; his specific name is obtained from the habit of the sexes of living apart in winter, the females migrating

Beluchistan.

Chagny, a tn. of Franco, N. hordor of dept. Saone et-Loire, 10 m. from Châlon-snr-Saone, 9 m. from Boaune. Has trade in wine, rallway workshops, and quarries. Pop. about 4500.

Chagos Archipelago, a scattered group of coral reefs and Islets in the Indian Ocean, S. of the Laccadino and Maldive groups. Area about 150 sq. m. A dependency of the British colony of Mauritlus. The most important cluster are the Oil Is., with Grand C., or Diego Garela, in the S.E. This island has a good harbour, is a coaling-station, and exports much cocoanut oil. It is on the route of Australian and Red Sea steamers. Other islands are Peros, Banhos. Danger, Eginone, hers Is. Pop. about 1000 Solomon. Three Brothers Is. (700 in Diego Garcia).

n S. America en N. through ising in San 30 m. from

Panama, flowing into Caribbean sea. Navigation is hindered by its falls and extreme swiftness, which also presented one of the main difficulties in constructing the Panama Canal. The Panama Rallway follows a part of its course.

are distinct, while the second order is Chaillé-Long, Charles, an African composed of hermaphrodite creatures explorer of French parentage, born whileh generally inhabit fresh water at Baltimore 1843, graduated at or live underground. Among the Washington Academy, 1860; studied army, 1862-5; went to Egypt and was made lieutenant-colonel by the Khedive, 1870. In 1874 he hecame chief of Gordon's staff, and went on a mission to King M'tesa of Uganda. Ohliged owing to plots to return to Gordon at Gondokoro, he managed to explore Lake Victoria and the country round, the course of the Somerset Nile, and Makaraka and Nyam-Nyam countries. As United States acting consul at Alexandria. 1882, he protected many Europeans and Americans. United States consul-general, 1887-9; secretary of legation in Korea, chargé d'affaires, 1897-8; United States special commissioner to Paris Exposition, 1900. He has been decorated with many medals and honours for services as explorer and soldier. Among his works are: Les Combattants Français; Les Sources du Nil; L'Egypte et ces Provinces Perdues; Central Africa . . , 1876; The Three Prophets, 1886.

Chailletacea, an obscure natural order of Dicotyledous flourishing in the tropics. The inflorescence is cymose, the flowers are hermaphrodite or unisexual, the calyx, corolla, and andræcium are in parts of five, the gynæceum consists of two to three united carpels, and the fruit is a drupe.

Challot, formerly a vil. in the im-mediate neighbourhood of Paris on the R. Seine. In 1659 it was called the suburb of 'la Conference,' because the Peace of the Pyrenees was decided upon after conferences there. Before the Revolution there were two monasteries at C. In 1786 it became part of the precincts of Paris. The popular expression 'ahurl de Chaillot' (of unknown origin) meant a fool, simpleton; 'envoyer à Chaillot.' envoyer promener.

Chaillu, Paul du, see DU CHAILLU.
Chain, or Gunter's Chain, a measnring-line in land-surveying, of 100
links (iron or steel rods, 7-92 in. long).
Hence a lineal measuro of 22 yds.
Ten square chains make 1 acre (4840
sq. yds.). A surveyor's chain now
is more commonly 100 ft. long

(Ramsden's chain).

Chain, Chain Cables (Lat. catena), a series of links of metal, or other material, so connected as to form a flexible hand. Cs. are of very ancient origin, but the number of different uses to which they can be put has been largely increased in modern times. Some of the oldest uses are as ornament (collar, bracelet, cf. modern wateb chain), as a symbol of office (cf. modern knight, mayor), and as fetters for prisoners or slaves, hence any kind of shackle or bond, or figuratively a restraining force. Cordage was used for many purposes now served by Cs.

1880; served in the Confederate | They are employed to confine, hind, fasten, or connect together various objects, to lift weights, to transmit a mechanical power. These last are known as pitcb-Cs. In some Cs. the links are composed of a single piece of metal (oval-link hoisting-C.), in others the links are made up of several separate pieces (hieyele-C.). These pieces are connected by holts, rivets, or stud-screws, so formed as to engage with the teeth of a sprocket wheel. They are partly machine and partly band-made. Cs. differ greatly in structure, according to the shape of the links (stud-Cs., open-link Cs., twisted-link Cs.), the mode of uniting them, and the purpose for which they are intended. They are sometimes loosely divided into hand-made and machine-made C. Ornamental Cs. may have a large variety of links, but those for uscful purposes are mainly of two types: (1) Stud Cs., in which a transverse stud or brace is inserted in each link to keep the sides from collapsing under strain; (2) open-link Cs. with no stud. The first are much stronger, increasing the load a C. can bear by ahout 50 per cent. Small Cs. are often made by machinery, hut larger ones are usually made by a smith and entirely hand-wrought. Crano Cs. and ships cahles, etc., are always hand-made from rolled bar-iron. The weld is commonly at the end of the link, hut for large cables presses may be used to hend the link, or power hammers for welding, the weld some-times being at the side. Weldless Cs. machine-made ones, manufactured from cruciform steel bars pressed while hot into links with no join (Strathern's process). They are mostly made in small sizes for cowties, dog-Cs., or fence-Cs. Strong Cs. can withstand a breaking strain of many tons. C. cables have to undergo severe tests before passed by the

> the links are made. A 2-in. stud C cable must withstand a test-load of 72 tons. For fall to the principal of see Kent, Medicine, I represent by extension for any series of events by extension for any series of events. or arguments connected in logical sequence. It also means a mountain. range. In certain breeds of pigeons it is the collar-like ruff of neck feathers. As a nantical term it means the contrivance to extend the basis of the lower shrouds of a mast, con-

> sisting of dead-cycs, C.-plates, and C.-wale ('channel').
> Chained Books. The custom of chaining books to stands or readingdesks was very common in various

parts of Europe in the 15th and 16th right to preside, and in the case of centuries. A library, fitted with read-many public meetings, the name of ing-desks made with an irou rod along the C. is previously announced in the the top to which the books were fastened by a chain, was founded at Zuiphen, 1561, and is still to be seen. Later, as the number of books increased, upright book-shelves were set up (very much as in modern libraries) and the books so arranged in them as to show the fore-edges ou which the titles were written. Sloping desks were placed in front of the shelves, and chains were fastened to the hooks long enough to allow of their being placed and consulted on the corresponding desks. All Saints' Church, Hereford, still possesses a library of this kind dating from 1715. Its cathedral library is an earlier example of the same system. In the reigns of the Tudor kings, Henry VIII. and Edward VI., orders were given for Bibles and copies of the Para-phrases of Erasmus to be chained in the parish churches. These hooks, together with Foxe's Book of Mariyrs and works of Jewell (d. 1571), may still be found in old churches with their chains attached to them. The practice was discontinued early in the 18th century. It was doubtless first introduced because the scarcity of books made them very valuable. See Blades, Books in Chains, 1892; Clark, The Care of Books, 1901.

Chain-mail, a flexible, defensive body-armour of hammered metal links, much used in Europe in the 12th and 13th centuries, and still in India and the interior of Asia. The links or rings were interlaced and connected by riveted links, so that each embraced four others, and wrought into the form of a garment. Though more convenient to the wearer than plate-armour, it was less adapted to withstand a lance's thrust.

Chain-plates, in shipbuilding, strong plates or bands of iron fastened to the ship's side under the chainwale, to which are attached the dead-eyes or (more recently) rigging-screws, to which the standing rigging and shronds are fastened. In architecture, a series of connected plates built into walls to give greater strength.

Chain-shot, an obsolete form of projecting invested by Admiral de-

projectile, invented by Admiral de Witt in 1665, consisting of two shot to destroy the enemy's rigging.

Chairman, the presiding officer at the meeting of any assembly, association, or company, whether convened for public purposes or for the trans-action of the private business of

notice convening the meeting. In the absence of the foregoing, or where the C. selected by the conveners of the meeting is challenged, the meeting should put the call to the chair to the The president or C. of the Honse of Commons is elected at the heginning of every new parliament, and is called the Speaker. The principal function of a C. is the maintenance of order, and on taking the chair a C. is consequently invested with anthority to control and regulate the proceedings of the meeting. Generally speaking the duties of a C. are to decide points of order, put motions to the vote. call upon speakers to address the meeting, regulate the discussions, call upon the stewards or managers (if any). or the members themselves to eject interruptors without unnecessary violence, sign and secure the proper framing of the minutes, and adjourn the meeting. The Speaker of the House of Commons gives rulings as to procedure, names members guilty of disorder, reprimands members and other persons if necessary, and signs warrants of commital for contempt. Speakers at a meeting must always address the chair. Unless previously selected to speak, when he will be called upon to do so by the C., a member desiring to speak must rise at the end of another member's speech. If two or more rise simultaneously, the one that 'catches the C.'s eye' should be called upon; but the C. may call upon whom he will. The office of C. may not be an easy one to fill. The ideal qualities in a C. are urbanity, the most unimpeachable impartiality, and a clear perception of the fundamental rules of debate. In calling speakers to order his function is to keep a discussion within legitimate or relevant bounds. In the case of meetings of public notine the test of includes it is obvious that public time can only be saved by confining specches to the questions on the agenda. The C is the sole indee as to whether any speech, resolution, or When any amendment is in order. resolution or amendment is proposed and seconded the C. is bound to put connected by a chain or har, and used the resolution or amendment to the vote. Where the voting is equal the C. may have a second or casting vote. Chairman of Committees, the officer

who takes the chair in the House of Commons when the Honse is in Committee and the speaker 'vacates the action of the private business of mittee and the speaker 'vacates the the members. When a meeting is chair.' He holds office during the assembled the first thing to be done whole parliament. To the C. of C. is for the chair to be taken. Some belongs the duty of superintending person present may have a statutory all matters relating to private bills. year. Where the speaker of the House of Commons was absent from parliament the C. of C. took his place, but for the last ten years a deputy-chairman has been appointed.

Chaise, originally 'a chair,' from the French, whonce sedan-chair; then by transferonce a light, wheeled vehicle Sometimes loosely used for any kind of pleasuro-carriage. Usually a twowheeled carriago for two people, with a calash top and the body hung on straps; drawn by one horso (cf. han-The post-chaise of the 18th and 19th centuries was a closed, fourwheeled vehicle with two or four horses.

Chalabre, a tn. of France, situated in the dept. of Aude, arron Limoux. It stands on the R. Lers, and lies S.W. of Carcassone. Pop. about 2000.

Chalaza, a term in botany used in describing the internal structure of the ovule. The C. is the base of the nucellus, a mass of parenchymatous tissue, from which the integuments

arise.

Chalcedon (Καλχηδών), properly Calchedon (now Kadikeui), an ancient Greek city of Bithynia on the Bos-phorus, opposite Byzantlum, S. of Scutari. It was a Megarian colony, founded 685 p.c. For long it vacil-lated between Athenian and Lacedemonian interests. Attalus III. of Pergamus bequeathed it to the Remans, 133 B.C. Partly destroyed by Mithridates, it was recovered begucathed it to the Calchedon was under the empire. frequently ravaged by barbarlan hordes, such as the Goths (A.D. 256) and Porslans under Chosrees (A.D. 616-26). In A.D. 451 the Fou General Council was held here determine the ecclesiastical iu diction of the sees of Romo and I' zantium. About a quarter of population aro Moslems; there i large British colony. Pop. ab-30,000. See Von Hammer. Constanti- towns, Olynthus and Potidea, wero nopolis, 1822; Murray's Handbook famous in Greek history.

for Constantinople, 1900. Chalcedony, or Calcedony, a precious stone of the commoner sort, deriving its name from Chalcedon, a city of Bithynia in Asia Minor. The ancient mineral, however, ap

been a green stone, w C. is a milky white or consisting of silica.

quartz in not being definitely erystal- annexes on each side of the tribunal. line, but oe

mammillary, a fibrous stri

6.5 and specific gravity 2.6. It occurs in cavities in volcanie rocks, where It has been deposited out of solution in water, as in the basalt of N. Ireland, Iceland, the Faroc Isles, etc. Occasionally specimens are found with a

The salary of the C. of C. is £2500 a | these are much prized as ornaments. C. has been worked by jewellers from early times, and variegated forms are differentiated as agate, onyx, jasper,

Chalcididæ

bloodstone, carnelian, etc.

Chalcedonyx, a specially marked variety of chalcedony, a mineral composed of quartz of a milk-white colour caused by the presence of opal. C. usually has grey ish markings, which give it, when polished, an ornamental value, it being used for making brooches and vases.

Chalchicomula (San Andrés), a tn. of Mexico, state of Puobla, 25 m. from Orizaba, near the foot of Orizaba peak. Pop. 7000.
Chalchihuiti

name for a kind

stone, quarried prized by the ancient Mexicans. Pro-bably it was a green variety of turquoise, or else a kind of jade. It was valued above gold, carved into rude figures and pelished, or made into beads and ornaments. Figures were found in tombs, and the brooch fastening Montezuma's robe was of chaichihuitl.

Chalcides, the name of a large genus of lizards in the family Scincide. The species are plourodont lizards with bony plates on the head and body, a sealy and feebly-nicked tongue, clongated and sometimes sorpentiform the limbs wanting or little body. developed, and the lower cyclid has They inhabit transparent disc. S.W. Asia and the Mediterraneau. Ch. ocellatus attains a length of about

10 inches. Chalcidice Peninsula, a district of

the Thermaie nic (Rendina) t divides into ito the Ægean ind Acte (with from Chalcis entury B.C., its

Chalcidicum, in architecture, vestibule or pertico of a public building; annex to a larger building (a basilica or a modern church); a columned hall or covered portico in front of the rance of certain buildings.

houses It was the part desguests or receptions. basilieas they wore -sido So called from Chalels in Eubwa,

which apparently first had such structures. The basilicus of Enmactria at Pompoli, and of Constantino at had a C. placed at one ond. See Gell, Pompeiana, 1832.

Chalcididee, a largo family of hymenonterous insects of parasitie habit. By feeding on the larve of drop of water in the interior, and other insects the chalcids are often figs, they are most valuable. Some of nople (1446) Laonicus was ambassa-

numerous species of tiny parasites rom 1298-1463 (De Origine et Rebus which prey on the larve of galls, on Gestis Turcorum), edited by Bekker. Caterpillars, on bees and beetles, but 1843. The name sometimes appears also on many destructive insec

they are thus of considerable C. flavescens is a to man.

which is native to tropical Almona, and a remarkable allied species is Blastophaga grossorum, a diminutive insect which assists in caprification or the fertilisation of the cultivated fig.

Chalcis (Negropont), anct. seaport of Greece, cap. of Eubœa, on the Euripus at its narrowest part, 17 m. from Thebes, 35 m. from Athens, to which it was subject in 5th and 4th centurles B.C. In early times it was a flourishing seat of commerce and manufactures (metal-work, purple, pottery), and a great colonising pottery), and a great peninsula eentre. The three-pronged peninsula of Chalcidice, projecting from Macedonia into the Ægean, took its name from colonists from C. Cume and Naxos were also colonised from there. Naxos were also colomised from there. In the 7th eentury it defeated Eretria in the Lelantine War, becoming chicfelty of Eubea. Both Antiochus III. (192 B.C.) and Mithridates VI. (88 B.C.) used C. as a base for invading Greece. C. was important in the middle ages; called Egripo by the Greeks. Negronome by the Italians. Greeks, Negroponte by the Italians. It has mediæval walls and towers, buildings of Venetian construction, and mosques mostly converted into Christian courehes. In 1894 an earthquake did much damage. Since 1904 a railway connects C. with Athens and Piraus. Pop. about 16,000. See Herodotus, v.; Thucydides, i.; Leake, Travels in Northern Greece, ii., 1835; Strabo, vii., x.

Chalcondylas (Chalcondyles), Demetrius (c.1424-1510), a learned Greck On Lorenzo grammarian of Athens. de Medici's invitation be went to Florence and taught there, bis pupils including that prince's sons, Grocyn, Linacre, and Latimer (1480-92). Professor of Greek also in Perugia, Rome, and Milan. The first printed edition of Homer was edited by C. (1488). His Greek grammar, Erotemata, appeared ahout 1493. He also edited Isocrates (1493) and Suidas (1499). See Giovio, Elogia; Börner, Programma de D. Chalcondyle, 1711; Symondy, Programa (1497). Renaissance Symond's

1875-86. Chalcondylas (Chalcondyles), Laonicus or Nicolaus (d. 1464), an able Byzantine historian of the 15th century, son of an Athenian noble, relative 1899.

1889;

NW un-

of benefit to man, and in the process (perhaps brother) of Demetrius C. of caprification, or fertilisation of (q.v.). During the siege of Constantidor from John VII., Paleologus, to Chalcis, a typical genus of the Sultan Murad II. He wrote History curious family of hymenopterous insects, Chaleidee. The family contains Empire and Fall of the Greek Empire, and the Sultan Murad II. He wrote History of the Turks and of the Byzantine Empire and Fall of the Greek Empire, and the Sultan Murad II.

 ∇ on Hammer, Ottoman. ns (perhaps from

Assyrian kasadu, to conquer), strictly a prov. of Babylonia, bounded by the lower course of the Euphrates, the head of the Persian Gulf and the Arabian desert. Its capital was Bit-Yakin, chief seat of Merodach-baladan, who harassed Sargon and Sen-nacherib. In O.T. Chaldrea, or nacherib. In O.T. Chaldea, or Kasdim, is used in a wider sense to mean the whole empire of Babylonia (Gen. ii., Jer. i. 51). Ezekiel (xxiil.) includes certain foreign nations as well. Another name is Mat Tamti The Chaldmans were probably a Semitic people from N. (Sea-land). Arabia or the Kurdish uplands, and were the ruling class at Babylon as early as the 8th century B.C. Nabopolassar, or Nabuapaluzur (c. 626-604), and his successors made Baby-lonia a world power. From this time onwards the terms Babylonians and Chaldmans became more and more interchangeable, till finally they were considered synonymous as in the Hebrew writers. Labashi Marduk was the last Chaldman king (556) the Babylonian Nabunaid succeeded According to somo him (555-38). the Chaldmans were a mixed race of Babylonians and Kassites or Cossæans. Besides being used as a racename for Babylonians, Chaldmans in the Book of Daniel (2nd century) astrologers, astronomers, mathematicians, and even magicians. This sense also appears in Herodotus, Diodorus, and Strabo. Xenophon's 'Chaldeans' (Anab. vii.) were an entirely different people from the Euxine. The Chaldean language seems to have been more like the Anabia on Babylonian than like the Arabic or Aramaic. Daniel, however, speaks of Aramaic as the language of the Chaldwans. Hence, when the Baby-lonian tongue was superseded by Aramaic, Jerome wrongly called the latter 'Chaldee,' and this name was kept till quite recently. See Delattre, 'Les Chaldéens' in Revue des questions'. tohist inte, Asia, gen : el.

dron), an English dry measure; in London 36 heaped bushels, or its equivalent weight, nearly twice as much at Newcastle. Now only used for coal and coke (formerly only 32 bushels). In U.S.A. a C. is about 2940 lbs.; in New York, 2500. See Diary, iii.; Steele, Tatler. Penys' No. 73.

Chalet (3 diminutive of casella), a Swiss word, said to have heen introduced into France by Rousseau. Originally a wooden but or cabin in the Swiss mountains, where cattle are lodged in summer, and cheese is made. Extended to a Swiss peasant's small cottage, a herdsman's hut or wooden house. Applied now to any picturesque villa built in imitation of

that style.

Chalcurs Bay (Baie des Chalcurs), a sheltered inlet of the Gulf of St. Lawrence, Canada, between Gaspé Peninsula and New Brunswick. Quebee is on the N., New Brunswick on the S. The bay is about 90 m. from E. to W., maximum breadth 25 m. There are good mackerel-fisheries. Shippegan and Miscon Is. are near the entrance. Discovered by Cartier in 1535, it was named from the intense beat of the season.

Chalfont St. Giles, parish of Bnek-chamshire. England, Wycombo inghamshire. from Chalfont Road div.; 3 m. station and Amersbam, 10 m. from there during the plague (1665-66), finished Paradise Lost, and wrote part of Poradise Regained. His eot-

Chalford, an ecclesiastical dist. and vil. of Gloucestershire. England, 4 m. from Stroud, 11 m. from E. Brins-Has dyeworks and combe station.

Prince Rupert, Hampden being mortally wounded. Pop. (1911) 364.

Cbalder, an old Scottish dry measure, drinking cup, goblet, or bowl, but in of 16 bolls or 64 firlots of corn (96 this sense now only used in poetical bushels). For lime or coal it varied language. Applied especially to the from 32 to 64 Imperial bushels. Still cup used in celebrations of the Holy from 32 to 64 Imperial bushels. Still used in computing the stipends of Seottish ministers.
Cbaldiregol, a lake in Transcaucasia, 35 m. from Kars. Length, 12 m.; maximum breadth, 10 m.; area about 33 sq. m.; maximum depth, 140 ft. 1t abounds in fisb (carp, tront, etc.), and is frequented by a bishop in accordance with a present form. It must be touched only by those in holf orders. The Cbaldron (another form of cauldron), an Englisb dry measure; in also to carry the wafer or hread. The London 36 heaved bushels. or its! C. is the emblem of St. John the Evangelist. The use of the 'mixed C.' (water mixed with wine in the Eucharist) in Roman Catholic and Oriental churches dates from very early times. See Justin Martyr. Apologia, i.

Chalicotherium, a genus of fossil pachydermatous animals, belongs to the extinct Ancylopoda, and has been discovered in the Miocene of Eppelsheim, near Mayence. Its limbs are tridactylate, and in dentition it lacks incisors, and has no canine teeth in

the upper jaw.

Chalina, a genus of Porifera, received its name from the naturalist The sponge is represented in Britain by C. oculata, the mermaid's

glove.

Chalk, a soft, white variety of limestone. As found in the S. and E. of England, it is white or yellowishwhite in colour, easily broken, though it varies considerably in compactness. Flints of various sizes are found em-bedded in the C., usually in fairly definite layers; otherwise it consists of calcium carbonate, with some admixture of silica, alnmina, and magnesia. C. consists of the shells of minute animals called foraminifera-Different forms of these animals exist in all parts of the ocean, and are capable of developing shells for them-Windsor. Penn is buried in the selves from the calcium compounds Friends' eemetery near. Milton lived found in the sea-water. When the found in the sea-water. When the animals die, the shells combine with other debris to form an ooze on the ocean hed. At various periods in the tage is still preserved and shown learth's history, such masses of ooze, Pop. (1911) 1762. hardened by superincumbent pressure into rock, have risen above sea-level, and thus we find that underneath the most recent formations, a vast mass of C. exists throughout a great part of England and in those European Chalgrove ('ebalk entrenchment'), coasts separated from England by ar. and vil. of Oxfordshire, England, the sea. The cbalk formation extends about 7 m. from Oxford, and 4 m. from the wolds of Yorkshire, with from Watlington station, Heuley div. characteristic rounded hills and white sea-cliffs, to the N. and S. Downs in sea-cliffs. Kent, running westward until they merge in Salisbury Plain. Owing to its soft nature, the C. provides gently Owing to Chalice (Lat. calix), originally any lundulating scenery, a fine thin soil in

which abundant grass grows suitable been done, and a declaration for sheep pasture. while the solution ('chalking' been written out a for sheep pasture, while the solution of the carbonate leaves behind numerons flints. Water in such localities is generally hard, owing to the amount) of calcium carbonate in solution. The C. is used for building purposes when found hard enough, and the fints are nsed for building and road making. When subjected to a bright heat. C. loses its carbon dioxide, and calcium oxide, or quicklime, is formed. When mixed with water, the hydrate. or slaked lime. Is, produced, and this, mixed with three times its bulk of sand, forms the mortar used to cement bricks together. Lime is also much nscd as a manure, as it hastens the decomposition of organic constitu-cnts of the soil. C. burnt with certain proportions of clay provides different forms of cement, which harden with more or less rapidity according to the proportions of the r constituents. C. is treated with acids to produce the carbonic acid gas required in the preparation of grated waters, etc. When the C. is triturated with water, and the fine particles allowed to fall in a fairly homogeneous mass, the resulting product is whitling, used as a pigment and a polishing medium. An artificial C. is prepared by adding sodium carbonate to a solution of calcium chloride, when a fine precipitate forms. This product, known as precipitated C., is used in medicine as an antacid and astringent, and serves as a tooth-powder and as a pigment. Substances somewhat similar in consistency to the carbonate are known as Cs. Black chalk is a soft schist containing carbon; red chalk consists of iron ore and clay; French chalk is a variety of steatite, or soapstone.
Chalkeley, Thomas (1675-1741),

Chalkeley, Thomas (10,10 adven-Quaker. After a varied and adven-preaching at a Quaker. turous youth, he hegan preaching at pine, 1809-10. Captain Nares was Quaker meetings, and in 1697-98 naval commander of the vessel, the Quaker meetings, and in 1097-90-visited the Puritan American colonics. In 1700 he returned to America; in 1701 took a preaching tour to tho Barhadoes, and hetween then and 1710 visited Ireland, Scotland, England, Holland, and Germany. Tho rest of his life was mainly spont in preaching and accompanies in in preach:--

América, His collec and 1790.

Chalking the Door, a mode of giving The chalk-mark is made by a burgh

written out and signed by the officer and two witnesses, he may demand the ejection of the tenants six days after the expiry of the forty days. See Hunter on Landlord and Tenant.

Challemel - Lacour, Paul Amand (1827-96). French publicist and statesman, graduated at l'Ecole Normale, 1849; professor of philosophy at Pau and Limoges. In 1851-54 banished by Napoleon III. for his independent, republican opinions, he went to Belgium, and then taught in Zürich. Returning to France (1859), he became a liberal journalist. In 1868 he came a liberal journalist. In 1868 he established the Révue Polilique, with Brisson and Gambetta, who made him prefect of Lyons, 1871; deputy, 1872; senator, 1876; ambassador to Switzerland, 1879; to England, 1880-82. In 1883, under Ferry, he was minister of foreign affairs; in 1890 becoming vice-president, and in 1893 president of the senate. C. founded the République Française with Gambetta becoming ciditor-in-chief. Membetta becoming ciditor-in-chief. Membetta becoming ciditor-in-chief. Membetta becoming ciditor-in-chief. betta, becoming editor-in-chief. Member of French Academy, 1893. He wrote philosophical works: La Philosophie Individualiste, 1864; transla-tion of Ritter's Geschichte der Philosophie, 1861. He also edited Madame d'Epinay's Works, 1869. Ho was an eloquont orator, representative of republicanism and anti-cloricalism. His Œuvres Oratoires appeared in 1897.

Challenge, see JURY. Challenger Expedition, a scientific exploration sent out by the British government (1872-6) for experiments in deep sea soundings and the

Antarctic H.M.S. of he Porcu-

Captain Nares was scientific staff being under Professor Wyville Thomson. Every kind of selentlife appllance was supplied for sounding the depths, mapping the basins

and oceans

Santa tions

Among nnmerous places on the route were Madeira, Canaries, West Indies, Nova Scotia, Capo Verde, Fernando tenants notice of removal (especially Noronha, Cape of Good Hopo, Melamong the poorer classes), long hourne, Hong Kong, Japan, Valknown and still in use in Scotland, paraiso, Magellan Straits, Portsparaiso, Magellan Strates, mouth. The deepest sounding was officer in the presence of witnesses on the Seventific Results of the Voyage forty days before Whitsunday, or the date on which the tonants are when this has 50 vols. (Zoology, Botany, Deep-sea Deposits, Physics, and Chemistry, etc.), 1880-95. The narrative occupies 2 vols. (1882-5). Consult also Moseley, Notes by a Noturalist, 1879; Spry, Cruise of H.M.S. Challenger, 1876; and works of W. Thomson, Murray, Campbell, and Wild.

Challis, James (1803-82), English astronomer and physicist, educated at Trinity College, Cambridge. Senior wrangler, first Smith prizeman, 1825; ordained 1830. In 1836 Plumian professor of astronomy and experimental philosophy, and till 1861 director of the observatory of Cambridge University. His labours were largely directed to determining the positions of the sun, moon, and planets, so as to increase tabular accuracy. Among his valuable improvements were the collimating eye-piece (1850), the transit-reducer, and the meteoro-He contributed largely to scientific publications, and also produced independent works on as-

English Roman Catholic divir cated at the English college at .

cated at the English college au1704; professor of philosophy
1713-20; vice-president and professor
of divinity, 1720-30. C. returned to
London, becoming coadjutor to Petre,
titular bishop of London, 1741, sueceeding him in 1758 as vicar-apostolic.
He was bishop of Debra in Libya,
1741. During the Gordon riots he
took refuge in Highgate. He published theological and polemical works, among them Church History; Grounds of the Old Religion; The Gorden of the Soul, 1740; The Rheims New Testament and the Dauay Bible, with Amendation, 1740-50. with Annotations, 1749-50. His version of the Douay Bible is substantially that since used by Englishspeaking Catholics. C. also translated The Imitation of Christ, 1706. See

The Imitation of Christ, 1705. See Barnard's Life, 1784.
Chalmers, Alexander (1759-1834), Scotch biographer and editor, educated in Aberdeen. He edited several newspapers in London (Morning Warrell) and the christ an Herald), contributed to periodicals, but chiefly wrote prefaces for new editions of English classics (Shakespeare, Fielding, Gibbon, Burns, Pope). He edited Johnson's British Poets. Poets. His British Essayists (Tatler) to Observer), in 45 vols., is still useful. His Glossary to Shakespeare appeared in 1797. His fame chiefly rests on his General Biographical Dictionary, 1812-17.

Scottish antiquarian and historian. educated in Aberdeen and Edinburgh, Emigrated to America, 1763, praetising law in Baltimore till the Revolution. From 1786 was chief clerk of the Board of Trade in London. His chief work is Coledonia: an Account, Historical and Topogrophical, of North Britain (1807-24). Other works were biographies of De Foe, Thomas Paine, Mary Queen of Scots (1818), Collection of Treaties (1790), and works on the colonies.

Chalmers, George Paul (1833-78), a Scottish painter, in early life a surgeon's errand-boy, then apprentice to a ship-chandler. He determined to become an artist, coming to Edinburgh, 1853, and studying under Scott Lauder. Orchardson, Graham. Pettie, and others were among his fellow-students. Among his first works were small figure pieces in oil, Student,' and 'The Smoker.' 'Favourite Air' won notice, duced independent works on as a rayourne air won house, 100-1, tronomy, physics, and mathematics, C. went on sketching tourns Brittany among them being Astronomical Observations (1832-64) of Combridge R.S.A., 1871. His colouring is rich and Observatory; Mathemotical Principles, R.S.A., 1871. His colouring is rich and Observatory; Mathemotical Principles, Physics. 1873. See Adams, James Figure pieces gave him some trouble, Challis; Monthly Notices R. A. Soc., While the Company of the Challoner, Richard (1691-1781), an instrumental provement. His beautiful landscapes Challoner, Richard (1691-1781), an instrumental provement. His beautiful landscapes Challoner, Richard (1691-1781), an instrumental provement. His beautiful landscapes Challoner, Richard (1691-1781), an instrumental provement. His beautiful landscapes Challoner, Richard (1691-1781), an instrumental provement. His beautiful landscapes Challoner, Richard (1691-1781), an instrumental provement. His beautiful landscapes Challoner, Richard (1691-1781), an instrumental provement. His beautiful landscapes Challoner, Richard (1691-1781), an instrumental provemental provements. and N. Hehrides. A.R.S.A., 1867: R.S.A., 1871. His colouring is rich and powerful, his portraits very good.

End of the Harvest, Water, 1875. Other Legend (Edinburgh

Legend (Edinburgh National Gallery); 'Prayer,' 1871, both etched by Rajon; 'Threescore Years and Ten' (R.A., London, 1875); 'Knitting,' 1876; 'The Love Song,' The Potato Harvest.' See Memoir, 1879; 'Art Journol, April 1873. Chalmers, James (1841–1901), a Scottish missionary, served in Glasgow City Mission, passed through Cheshunt College, and was appointed by the London Missionary Society 1866) to work in Raratonea Island (1866) to work in Raratonea Island (1866) to work in Raratonga Island in the S. Pacific. He worked there for ten years, especially training native evangelists, and called by the natives 'Tamate,' Then he was transferred to New Guinea. Besides zealous mis-sionary work, C. and Lawes (his colleague) did much as explorers to open up the land, and helped in establishing the British protectorate. C. and Tomkins (another missionary) were murdered by cannibals at Goarlbari Island. See R. L. Stevenson on J. Chalmers; Autobiography and Island. Letters, edited by Lovett. 1902: Lovett, Tomole.

Chalmers, Sir Mackenzie Dalzell (b. 1847), English barrister and writer, educated at King's College, London, and at Oxford, Barrister, 1797. His fame chiefly rests on 1869; revising barrister, 1881; Indian defeneral Biographical Dictionary, Civil Service, 1869-72. He has held 21-17. Chalmers, George (1742-1825), a among them that of counsel to the : 1807.

Board of Trado, 1882; judge of country courts, 1884; acting cliff database at Gibraltar, 1893; nomber of convener of the church-extension itoyal Commission on Viviscotion; committee (1834). Cases of conflict lexal member of the council of between the church and clyil and clyi India's governor - general, 1896-99; lirst parliamentary counsel to Trensury, 1002-3; succeeded Digby perminuent ander secretary of state for the Home Department, 1903-8. Chairman of S. Nigeria Liquer Enquiry: one of Home Office Committee on coroners and double under ames-Holles. C. contributed articles to the Dictionary of Political Economy, and to Encyclopædia Britannica. Ho also published Digest of the Law of Bills of Exchange, and at The Law of Sale. 1C.O.11., 1000.

Chalmers, Dr. Thomas (1780-1847). Scotlish theologian and economistano of the most entirent figures and inlluentlai preachers of the 19th contury. His powers of oratory were so great that Johrey ranked him with Domosthones, Cicoro, Burke, and Sheridan, Educated at St. Andrews University, he began preaching al-ulnoteen. From 1803-15 was minister of I tim

cal but of iHils

llamby for Browster's Bandourga Buggelopadia (1810), his spiritual tlamty Bannourga nature was aroused, and he became an enthuslastic paster. In 1815-20, an outhuslastic pastor. In 1815-20, as minister of Tron parish, Glasgow, he tried to remedy the ignorance and vice of his parish, making experiments in purceidal organisation, which may be said almost to have suggested inodorn methods of dealing with the dependent classes, as seen In charity organisation societies and In sottlement work. See Masterman, Chalmers on Charity, 1900. divided the parish into twenty-five districts, and established two week-day and numerous Sanday schools. Ills Astronomical Discourses appeared hi 1817, and were very popular. Ills visit to London was onlinishedleally : Civic

ared In urs told ocumo l

at St. Andrews; 1828 of theology at Edin-

thortly arose in Auchterarder, Dunkeld, and Marnoch. In 1813, owing to those internal troubles, 170 clergy-mon, hended by C. left the church and founded the Free Church, claiming for it spiritual independence. C. was made principal of the Pree Church College. fle devoted much line to the attempt to abolish patperlan round about Edinburgh. His last work was Institutes of Theology. Other works are: Inquiry into the Extent and Stability of Resources ; Evidence National and Authority of the Christian Revelation; Commercial Discourses; Treatise on Political Economy, 1832; Defence of Church Establishments, 1838. 1114 works were collected 1836-10, and postimmously 1847-49. See Hanna's Memoirs, 1840-62; Buolaman's Ten Veurs' Conflict, 1849; Annals of the Disruption, 1876-7; Mrs. Oliphint's Thomas Chatmers, 1898; Blatklo's Life, 1897; Ency. Brit. : Taylor Innes's Law of Ureeds in Scotland.

Chaloner, Sir Thomas (c. 1520-66), English statesman and writer, education at Oxford, sent by Henry VIII. as tollat Oxford, sent by 110m; numbussador to Charles V., whom he sastrons ox-

ldef eierk of dited for his

1517. As a Protestant he was driven from office in Mary's rolen. Elizaboth sont him na umbassador lo the Emperor Ferdinand 1, of Germany, 1558, to Pullip 11. nt Couriray, and as minister at the Spaulsh court, 1561. Among his works are Office of Servants (translated from Cognatas, 1543); translinglish of SL. ialión Into 1511 : De Chrysostom's homilles, Republica Anglorum Instauranda, 1644: Miscellaneons (Latin) Poems, 1650: Carmen Panemprican, 1560; and translation of Erasmus's Praise of Folic, 1540. See Biographia Britunnica.

Thomas Chaloner, Sir Thomas (c. 1561-1616), English naturalist, son of the slatesman, father of Edward, James, and Thomas the regioide (d. 1862),

> Prince Henry, He school at

J. scholarships A Short Discriue of Nitre. lirst English alum mines at Belman Bank, Guishorough, about 1600.

Chalonnes-sur-Loire, a tn. in the dept. of Maine-et-Loire, France, 12 m. S.W. of Angers. The chief trade is in wines and grain. There are is in wines and grain. There are mineral springs in the neighbourhood. C. possesses the ruins of a

12th-century château. Pop. c. 2000. Châlons-sur-Marne, the cap. of the dept. of Marne, France, 107 m. E. of dept. of Marne, France, 107 m. E. of Paris by rail, situated on the r. h. of the R. Marne. C. is a garrison town, surrounded by old walls. Its houses are old and built of timber, and the cathedral of Saint Etienne, famed for its altar, dates back to the 13th cen-tury. C. has some handsome public huildings—the hôtel-de-ville, com-munal college, museum, and library, etc .- and a fine park, the Promenade Jard. It has trade in woollens, leather, grains, oil, and champagne, but the manufacture of 'shailoon,' a kind of worsted cloth, mentioned by Chaucer, has fallen into disuse. was known to the Romans ns Catalaunum; it was the site of the defeat suffered nt tho hands of the English (1430-34) and of the Prussians (1814),

Châlon-sur-Saône (anelent Cabillonum), the cap. of an arron. in the dept. Saône et Loire, France, situated on the r. b. of the R. Saône at its junction with the Canal du Centre. There are fine quays along the riversida and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the town has a presence of the capacita and the side, and the town has a prosperous trade with the Atlantie and Mediter-Its ebief manufactures are class, pottery, paper, hosiery, and jewellery; there are also copper and iron foundries and shipbuilding works.

Pop. (1901) 29,058.

Chalus (Castrum Lucii), a tn. of France in Haute-Vienne, on R. Tardoire. 17 m. from Limoges. The upper town contains ruins of the castle where Richard I. was mortally wounded, 1199. Near by is the ruined fortress of Montbrun. Pop. (commune) 2500.

: einrich Chaly Moritz ophical years: sophy at Kiel University, dismissed owing to his Germanie sympathies.

Chaman, New, in in British Date of this chief work is System der speculation, terminus of Quetta Rallwny, tiren Elhik. , 1850. In 1836 he published Historicals Entiried and Gord of Chaman.

der speculatiren amba (Chumba), a nativo trih. of Punjab, British India, also of Punjab, British India, also tehief town of this state on the Rayl.

Chalybeate Springs are naturnl mineral waters in which iron pre-dominates. The iron is generally combined with carhonic acid, in tho form of protoxide or proto carbonate, or with sulphuric acid, in the form of sulphate of iron, and the springs, therefore, can be subdivided into carbonated ehalubeate and sulphated chalybeale.

Chalybes (Gk. Χάλυβες, from χάλυγ, steel), an Asiatic people who lived in Pontus, Asia Minor, S.E. of Black Sea. Famed as ironworkers, whence our word 'chalyheate.' Also a people near the headwaters of R. Euphrates

in ancient times. Cham (Fr. for 'Ham,' son of Noah) (1819-79), pseudonym of the brilliant caricaturist, Amédée Charles Henri, Vicomte de Noé. He studied under Delaroche, Charlet, and Lanny, and won fame for depicting the humorous side of contemporary Parisian life, his first nibum Calembours, betieses, jeux de mots tirés par les chereus, appearing 1842. In 1843 he first he came connected with Charivari, and of the Huns hy the combined forces in this and the Journal des Pélériof Romans and Goths in 451; it nages his drawings continued to appear till his death. His master-pieces are chiefly social, but he also (1430-34) and of the Prussians (1814), pieces are chiefly social, but he also and in 1870 was taken by the Germans during the Franco-Prussian War. when MacMahon withdrew from the famous camp of C., formed by Londres. For collections of his comic Napoleon III. in 1856. Pop. (town) sketches see Douze Années Comiques, 1820, (commune) 26,737.

Châlon-sur-Saône (ancient Cabilland) There are also examples in Sala's lonum), the cap. of an arron. in the Paris Herself Again, 1882. Consult dient. Saône et Loire. France, situated Riberts. Cham. 1883. Ribeyre, Cham, 1883

Chammieon, a small southern constellation near the South Pole he-tween Hydrus and Argo, announced by Bayer in 1603.

Chamæleon, see CHAMPLEON.

Chamærops, a genus of palm-trees, consists of only two species, both Mediterranean plants, and C. humilis having the peculiarity of being the only European palm. In Britain it is frequently cultivated in hothouses, where it grows to a height of 15 ft., but in Spain it grows in the open to about 4 or 5 ft. only, and in Italy it is smaller still. The trunk is 5 or 6 in. in diameter, and the fan-like leaves grow in a tuft at the top.

cinrich of the Himalaya Mts., between Tibet philosome from Mt. Everest, rising above the philo-main route from India to Gynngtso.

at the foot of the Himalayas, 120 m. of office depending on that of his from Lahore. Bounded by Kashmir political party. A vice-C as deputy territories N.E., Kangra and Gardas- and assistant has existed from the Produces whoat, millet, rice, Indian corn, hops, wnx, nuts, honey, and timbor. Iron ore and slato quarrics abound. A favourite resort of sportsmen, it contains the British sanatorium of Dalhousic.

Arca, 3180 sq. m. Pop. 128,000.
Chambal, n riv. in Central India, trib. of the Jumna R., rises in the Vindhyn Range (2019 ft.) and flows 650 m. in a N.E. direction to its junction with the Jumna, 90 m. S.E.

of Agra.

Chamber, of a fire-arm, is the term applied to the lower ond of the bore of a gun, howitzer, or mortar, where is placed the charge of powder by which the shot or shell is projected Cs. are now made larger in dlameter than the bore, since the charges used have become heavier.

Chamber of Shipping of the United Kingdom. An association of British shipowners organised to furnish roports for parliament on the progress of shipping affairs and to facilitate the maritimo work of the government.

offices nro at 5

share in

ment, ar

case, ho high standing in the royal household. The Lord C. has control over all officers, servants (except these of the bed-chambor). physicians, musicians, comodians, and tradesmen connected with the royal household. In 1782 he became the provider of state-robes for the royal family, household, and officers of state. Cards of admission to royal functions (lovées, drawingrooms, balls) must be obtained from lilm. He inderses the king's answer on petitions, and often communicates Ills Majesty's pleasure to parliament and the council. Theatres in towns containing a royal palaco have to be licensed by the Lord C.; no new play can be performed without his sanc-tion. Much discussion has lately been raised on this point (see CENSORSHIP OF THE DRAMA). The examiner of plays is a leading member of his staff. His salary is £2000 a year, tenure Mason); Japanese Poetry, 1910.

nnd assistant has existed from the tlmo of Richard II. Other stateofficials are the Lord Great C., and City C Du Ca

and ' Law c1896.

Chamberlain, Lord Great, an heroditary sinceure office, historically descended from the ancient C. of the Exchequer department of the Norman period. The office was formerly of the lighest dignity, and was held in grand serjeanty. The L. G. C. is now the sixth great officer of state, and the duties of the office are mainly concerned with coronation ceremonics. To the office also appertain the earo of the king's palace at Westminster, authority over the buildings of the two Houses Parliament during recesses, and the duty of attending on peers at their ercation, and bishops when they perform their homago. The element of sericanty, or personal service, is preserved by the L. G. C.'s theoretical The chamber consists of a society of right to dress the king on coronation thirty shipowner

ore and nfter the banquet. offices are at 5
Leadonhall Stre,

Chamberlain, an ollicer attached to the court of a monarch, appointed by a king, nobleman, or corporation to porform domestic and coremonial duties. In Great Britain this office was one of the chief officers of state from very early times. The C. was one of the chief officers of state from the 18th century; 1406 Parliament declared that he must be a momber of the council ex officio. fourth Duke of Ancaster, but is now Hence he had originally considerable in the joint tenure of the Marquis of Hence he had originally considerable in the joint tenure of the Marquis of lmondeley, the Earl of Aneaster,

the Earl of Carrington. On the mation of Edward VII. the honorary functions of the office were by mutual agreement committed to the

care of the Marquis of Chelmondeley. Chamberlain, Basil Hall (b. 1850), English scholar, born at Southsea. Hampshire. Educated in France and by a private tutor in Englaud. Holds the appointment of emeritus professer of Japanese and philology at the university of Tokyo. Among his pubuniversity of Tokyo. Among his publications are: The Classical Poetry of the Japanese, 1880; A Romanised Japanese Reader, 1886; The Language, Mythology, and Geographical Nomenclature of Japan viewed in the Light of Aino Studies, 1887; Handbook of Colloquial Japanese, 1907: Practical Introduction to the Study of Japanese Writing, 1905 (2nd ed.); Things Japanese, 1905 (5th ed.); Murray's Japan (3rd and subsequent oditions in collaboration with W. B. oditions in collaboration with W. B.

Chamberlain, Houston (b. 1855), Anglo-German author, horn at Portsmouth, Hants, is a lecturer on philosophy at the Vienna University. The results of his study of modern thought and eivilisation are embodied in bis remarkable book Die Grundlagen des Jahrhunderts. neunzehnten translated into English in 1910. 1896 he published a most appreciative biography of Wagner, for whom be has also shown his admiration in R. Wagners, Drama Among his other works are: Die ersten 20 Jahre der Bayreuther Bühnenfestspiele, 1896; H. von Stein und seine Weltanschauung, 1903; and

Kant, 1905. Chamberlain, Joseph, British statesman, was born in London on July 8, 1836. He was the eldest son of Joseph C., a well-to-do business man, who was a Unitarian by religion and a man of advanced political ideas. Joseph C. was educated at Canonhury and at the London University School. On leaving school he spent a short time in his father's office in town, and then left for Birmingham, where he joined his cousin, Joseph Nettlefold, in the screw husiness. His keen business methods and his undoubted ability ensured the progress of the firm. New methods were intro-duced into the husiness, and com-petition was successfully cut down by means of a series of amalgamations. The result of this keen business ability was that at a very early age Mr. C. was able to retire from husiness and take an active interest in public life. During his stay in Birmingham, he had taken more and more interest in local politics, and when he retired from business in 1874 he was able to devote most of his time to these. He had married in 1861 a Miss Kenriek, who died in 1863, and later, in 1869, be married again a Miss F. Kenriek, a married again a Miss F. Kenriek, a first cousin of his first wife. He was already recognised as one of the leaders of Liberal ideas in Birmingham, and had heen instrumental in establishing a Liberal Association in the town. Ho also took a prominent part in the educational movements of the time. In 1870 he hecame a member of the Birmingham Sebool Board, and three years later, the chairman. His politics at this time were usually given the name of re-publican, not because they actually advocated the principles of re-publicanism, but because they were so advanced and so Radical that they

occupied for the succeeding three Birmingham dates a great years. deal of her importance back to the days of his mayoralty. Great municipal reforms were carried out during his period of office. A magnificent library and an art gallery were built, public recreation grounds were opened, slums were pulled down, and spacious and well-paved streets took their places. The prosperity of Birmingham rose very rapidly indeed. The rise of Mr. C. as a leading reformer in municipal matters had not passed unnoticed throughout the rest of England. Already ho was marked as a coming man, the fame of his reforms was spread about, his utter-ances were taken up by the press, and in addition to bis popularity as mayor of Birmingham he was also well known throughout England. In 1874 be contested a parliamentary seat in Sheffield, but without success. However, two years later, Mr. C. became the colleague of Mr. Bright in the representation of Birmingham. Hitherto his work had been confined to Birmingham, now he rapidly advanced towards the front ranks of the Liheral party. Almost simultaneously with his entrance into public politics, his ability and worth were recognised. He showed his organising ability by the manner in which he organised the Liheral Association throughout the country, an organisation for which both he and the Liberal party were recompensed in the general election of 1880, when the Liberals were returned with a clear majority over hoth the Con-servatives and the Nationalists. In the Liheral government of 1880, Mr. C. was given the position of the President of the Board of Trade, with cabinet rank, and Sir Charles Dilke, another leader of the Radical section, hecame Under-Secretary for Foreign In 1883 he carried his Bankruptey Act, and throughout the whole of his tenure of office he supported democratic ideas. In 1885 he put forward what was called tho 'Unauthorised Programme,' that is a programme which went far beyond the conception of the Liberal party. He had up to this time supported the Liberal party on questions of foreign policy, and more especially Irish policy. He advocated also free education and small holdings, the famous phrase 'three acres and a cow' exemplifying the latter policy. In 1885 Gladstono's ministry was so advanced and so readical that they in 1885 Gladstono's ministry was easily outdistanced even the most defeated. At the elections which liheral ideas of the formal Liberal followed the number of Liberal party. Ho took a prominent part members was decreased, and it bealso in the municipal affairs of came necessary to depend on the Birmingbam, and in 1873 he hecame Irish vote for a majority. Mr. C. was mayor of Birmingbam, an office be returned for W. Birmingham, and in

Jan. 1886 Lord Salisbury's govern-1893 he took the most prominent ment was defeated. Already it was part in opposing the Home Rule known that Mr. Gladstone was going to introduce a Home Rule Bill, but Mr. C. accepted office as President of the Local Government Board. In March he resigned, giving as his reason that he was unable to accept the measure which Mr. Gladstone had laid before tbe cabinet, that he still supported a Liberal-Unionists. This was the first large extension of l for Ireland, but eou

lengths proposed. to get Mr. Gladstone to amend his bill, but finally, when it became obvious that the measure would come up for its second reading in practically its original form, serious steps were taken by Lord Hartington and Mr. C. At a meeting of the followers of Hartington and C.. it was agreed that the dissentient Liberals must to the dissentiont Liberals must vote with the Tories against the bill, and this was done. The bill was rejected by a majority of thirty, ninotyfour Liberal-Unionists, as they now began to be called, voting with the majority. Even yet reconciliation with the Liberals was not impossible. A round-table conference was held, the idea being put forward by Mr. C., but it came to nothing; a working basis could not be found, and the split in the party became more definite. The feeling of the Liberals, not unnaturally, was deep and bitter against Mr. C., and one member at least did not refrain from calling him Judas. The Liberal-Unionists rapidly became more and more soparated from the Gladstonian Liberals, and they adopted a definite policy for them-selves. They decided that it was necessary under every consideration to keep Gladstone out of office, and they supported the Tories with that end in view. They did not, however, yet take office with the Tories, and their influence was rather widening in Tory policy. The Tory government passed measures which up to this time had been regarded solely as part of the Liberal programme, and had eaused some considerable permany of them were more progressive than similar measures previously adopted by the Liberals. In 1887 had been supported by the party. Mr. C. became one of the British Mr. Ritchie now proposed to take the

measure introduced by Mr. Gladstone; a measure which passed the House of Commons but was rejected by the Lords. In 1895 the Roschery government was defeated, and the government which was formed by Lord Salisbury included a number of ties. Mr. C. became Colonial

. The period 1895-1900 was ever, not yot any definite break with one of great difficulty, especially in the party; constant efforts were made the matter of colonial affairs, and more especially in S. Africa. The Jameson Raid did not help the strained feelings which existed between the British government and the Boers, and the whole difficulty was often assigned by his political opponents to Mr. C. and his desire for personal aggrandisement. Every step in the negotiations of 1899 was attributed to personal feeling on the part of the Colonial Secretary. War broke out in 1899, and in 1900 Mr. C. received vindication in the result of the election which followed. During this period of office he had also passed the Australian Commonwealth Act (1900). During the years of office Act (1900). During the years of office Mr. C. had advocated the policy called Imperialism. He had never subscribed to the same narrow limits of the Gladstonian foreign policy, and his tenure of office as minister for the colonies had taken his ideals from the purely national point of view and widoned them to the imperial point of view. During the war he was the hero of his party, and by his firm policy and his unswerving support of the war did much to enhance his re-putation. In 1902 Mr. Balfour became Prime Minister, and Mr. C. continued to serve under hlm. He visited S. Africa in the same year, and did much to smooth over the bad feeling which still existed. But he had become essentially a colonial minister, and he regarded from the broader point of view all issues. During the war a corn tax had been levied, and

ax off. Several of the members Unionist party were in favour retention altogether. Mr. C. the remitting of the tax of the colonies, but its s far as foreign corn was emitted, but

, there wero

the party on le. No open le.

În the samo year he mar wife (Miss Endicott olection of 1892 turned for his old the Liberal-Unionis in a minority and Mr. Gladstone split took place until the following again became Prime Minister. In year, when Mr. C. put forward the

given the freedom of I

III

main ideas of Tariff Reform at Birmingham. He held that it was impossible to inaugurate a system whereby we could help our colonies without a revision of our present tariff system. The movement found support and connections of support and connections. support and opposition. Some ! political ceonomists issued manufestoes in favour of it, more issued manifestoes against it. The party litself was divided, and on Sept. 15. Commons (1900-2). C. was appointed Signed. Mr. Ritchic and Lord George Chancellor of the Exchequer on the Gamilton, the stauncher free traders, reconstruction of Balfour's cabinet, also resigned at the same time. Mr. C. resigned merely to become the pioneer of the movement which he advocated and not from any sense of hostility towards his 'friend and hostility towards his 'friend and leader' Mr. Balfour. Mr. Balfour's attitude on the question was more or less philosophic, and he was claimed by both sections of his party. He, however, made it clear that he was in favour of a measure of tariff reform for purely retaliatory purposes. Mr. C. spent the years 1903-1906 in travelling throughout the country advocating his system of tariff reform. He was attacked on every side. and his party to all intents and purposes, if not openly, was divided scriously on the question. The with-drawal of Mr. C. from the cabinet, and the advocation of these new measures contributed to the downfall of the government, which resigned in Dec. 1905. The election which followed was to a very great extent the result of the differences in the party. Mr. C. insisted on the adoption of his principles, and the Unionist party was overwhelmed at the elections. Mr. Balfour after the elections pledged himself to Tariff Reform, which since then has been the principal plank of the Unionist platform. In the middle of 1906, after he had received an overwhelming ovation from his fellow citizens on his seventieth birthday, Mr. C. was taken ill, and although at first it was hoped that he would recover sufficiently to return to parliament, the hope was in vain. He still retains his seat for W. Birmingham, but has not taken a

under

1903-6. He married in 1906,

Chamberlain, Sir Neville Bowles (1820-1902), a British field-marshal, born at Rio de Janciro, Brazil. He entered the Indian army in 1837 and took part in the Afghan War (1839-42) at Ghazni, Kandahar, and Kabul, and was wounded on six occasions. He fought at Maharajpur in the Gwalior campaign of 1843 and in the Punjab campaign of 1848, after which he was made commandant of the Punjab military police. In the Indian Mutiny (1857) he distinguished

in Phil Willes, Australia. Educated in New South Wales and entered its Civil Service, 1875. Settled in England, 1882, and became journalist, story-writer, and finally dramatic author. His plays include: Captain Swift. The Idler, The Honourable Herbert, The Old Lady, John-a-Dreams, The Tyranny of Tears, The Auokening, The Golden Silence, Sir Anthony, Passers-lu. Part author of

Authory, Passers-by. Part author of The Fatal Card, Boys Together, and The Days of the Duke.

Chambers (or Chalmers), David. Lord Ormond (c. 1530-92), a Scottish judge and historian, educated at Aberdeen, then studied theology and Birmingham, but has not taken a prominent part in the deliberations of the party since his illness. Like all sudy, chancellor of Ross, lord of the party since his illness. Like all session (1565). A partisan of Mary strong men Mr. C. was the object of Queen of Scots, said to have been intense admiration and dielike, and privy to Darnley's murder, 1567. A trained by parliament after the politician of his time aroused such strong political passions.

Chamberlain, Rt. Hon. Joseph Austen (b. 1863), an English statesman, 1579 (a chronological summary of eldest son of the Rt. Hon. Joseph European history). C. returned to C. (b. 1836). Educated at Rugby and Scotland, becoming again ford of sessar birteral-Unionist member for E. Worcestershiro in 1892, for which constituency he still continues to sit.

Chambers, Ephraim (1680-1740), an law in France and Italy. Parson of

as a bookstall keeper in Leith Walk, ho joined his

ho started a two founded

... & R. Cham-

English encyclopædist, born at Kendal. As a young man be was apprenticed to a map and globe maker in London. In 1728 he published by subscription his Cyclopædia, or an Universal Dictionary of Arts and Sciences in competition with Harris's Lexicon Technicum, 1704. C.'s work reached its foorth edition a year after his death, and gave rise to the Eucyclopædia of Diderot and d'Alombert. Chambers, George (c. 1803-40), a marine painter, born at Whitby, Yorkshire. He was the son of a fisherman, and in early life was apprenticed to the master of a trading brig. Literature, 1844, containing selected He soon showed a talent for painting, cands from the best authors in sambition, however, drew him to London, where he received employsement as a seene-painter at the Pavilion Theatre. He also worked on the panorama of London at the Coliseum. His work received the Attention of Lord Mark Kerr, through lase contributed 'Histories of the attention of Lord Mark Kerr, through lase contributed 'Histories of the attention of Lord Mark Kerr, through lase contributed 'Histories of the attention of Lord Mark Kerr, through lase contributed 'Histories of the attention of Lord Mark Kerr, through lase contributed 'Histories of the attention of Lord Mark Kerr, through lase contributed 'Histories of the Coliseum. His work received the Annals of Scotland, 1859-61. He attention of Lord Mark Kerr, through also contributed 'Histories of the whose kindness C. received the ap-Scottisb Rebellions' (1828-9) to Conscient of marino relations to table Miscelland Robot C. reserved. whose kindness C. received the appointment of marine painter to William IV. and Queen Adelaido. He sand member of the Society of Painters in Water-Colours, and exhibited from 1827 to 1840. Three of his pictures of naval hattles are in Greenwich Hospital, viz. 'The Capture of Portobello,' 'The Bombard Islands, 1856. In 1844 he published, ment of Alger,' and the 'Destruction of the French Fleet at La Hogue.'

Chambers, George Frederick, J.P., Ernch, S. (b. 1841), edneated at Brighton, and entered the Inner Temple. In 1873 be became an assistant inspector of the Local Government Board in 1827. Temple. In 1873 be became an assistant inspector of the Local Government Board; in 1887 an assistant boundary commissioner for England and Wales; served on several town. borough, and county councils, etc.; in 1895 became a membor of the Canterbury House of Laymen, and in 1904 of the Representativo Church His labours in compiling his last public speaker on Conservative and ceclesiastical matters. His works include Handbook of Astronomy, 1890 (4th, edition); Pictorial Istronomy, 1890; a valuable addition to Scottish folk-flex forms of Amadeurs, 1895-1912; a Royantic Scotch Ballads with original servers as the servers of the Sun, etc., 1895-1912; a Royantic Scotch Ballads with original servers as the servers of the Sun, etc., 1895-1912; a Royantic Scotch Ballads with original servers as the servers of the Sun, etc., 1895-1912; a Royantic Scotch Ballads with original servers and servers of the Sun, etc., 1895-1912; a Royantic Scotch Ballads with original servers of the sun of the The Slory of the Sun, etc., 1895-1912; lore; Scottish Ballaas and Songs, 1822; Astronomy for Amateurs, 1912; a Romantic Scotch Ballads with origivaluable digest of Local Government inal Airs, 1844; Songs of Scotland laws (1873-99), and several text-books; prior to Burns, 1862; and a Life of on that subject; and guides and Scott, 1835. See W. Chambers's tourist books.

Chambers, Robert (1802-71), a Scottish publisher and author, born at 1884; Story of a Long and Busy Life, Peehles and educated at the local 1884, by William Chambers; and school. In 1818 he started business James Payn's Literary Recollections, 1884 he started business James Payn's Literary Recollections, 1884. Chambers, Robert William (b.1865),

American painter and author, born in Brooklyn, New York; educated and studied art in Paris, exhibiting at the of Edinburgh, which won him the clude: In the Quarter, 1895; The King

The Cambric Mask; The Maids of Paradise, Outsiders ; Cordigan: Witch of Ellangowan, was written for Miss Ada Rchan.

Chambers, William (1800-83), Scottish publisher, born at Peebles. In 1813, owing to family misfortunes, he was apprenticed to a bookseller in Edinburgh. Five years later he started business for himself, afterwards adding printing to the bookselling, and was soon joined by his brother Robert. In 1826-30 he wrote directly and by the Book of Scotland, and collaborated with Robert in a Gazetteer of Scotland. In 1821-2 he started a fortnightly journal called *The Kaleidoscope*, and journal called The Kaleidoscope, and in 1832 issued the first number of Chambers's Edinburgh Journal, the pioneer of the cheap popular periodical. After the issue of the four-teenth number Robert became eoeditor, and the prosperity of the journal rapidly increased. This led to the founding of the firm of W. & R. Chambers and the issue of a series to the founding of the firm of W. & R. the beginning of the 18th contury Chambers, and the issue of a series chambers were organised at Lyons,

Course, including Eng of (20 (12 . (10 reiss firm, 1888-95 the estate c shire, and in Institution. museum, an chamber of Glasgow was institutive Lord during which he promoted several ber was founded in 1785. Beliaburgh improvements in the city and restored, at his own cost, the cathedral in 1786, Manchester in 1794, Beliast stored, at his own cost, the cathedral in 1796, Birmingham in 1813, Nowoff St. Giles. He was founded in 1785. Ciles he cathedral in 1796, Birmingham in 1813, Nowoff St. Giles. He was founded in 1785. could be conferred. Besides his contributions to the Journal and the Educational Course. William C. wrote: Tour in Holland and the Rhine Countries, 1839; Things as they are into m in America, 1854; History of Peeble departs shire, 1864; Fronce: its History and mittee. Revolutions, 1871; Ailic Gilroy, 1872; the me Stories of Old Families and Remark monts. oble Persons, 1878; a Sketch of St. Giles' Cc

See article on ROBERT .

in Yellow, 1895: The Red Republic, English architect, born at Stockholm. 1896: Lorraine. 1896: Ashes of As a boy he went to ea, but in 1744 1896; Lorraine, 1896; Ashes of As a boy he went to sea, but in 1/44 Empire, 1899; The Conspirators; began to study architecture in Italy and Paris. He remodelled Somerset House (1776), designed the pagoda wayan; The Manas of Paraaise, House (1776), designed the pagoda 1903; The Fighting Chance, 1907; and other buildings in Kew Gardens The Firing Line, 1908; Some Ladies (1762), and was first treasurer of the in Haste, 1908; The Green Mouse, Royal Aeademy (1768). His Treatise 1910; Ailsa Page, 1911; The Danger on the Decorative Port of Civil Architalist, The Common Law, 1912, tecture is a standard text-book. His Also two plays, one of which, The absurdly extravagant Discontains on Oriental the satir

William Chambers, in which William Mason and Horace Walpole probably took part. Consult his Life by T.

Chambers of Commerce, associations of merchants, bankers, and others associated with trade for the purpose of promoting trade interests directly and by appeals and repre-sentations in the government. These associations also furnish statistics with reference to the districts to which they belong, and comparative statistics of trade generally. A C. of C. may also be called upon to decido issues in mercantile questions. The oldest C. of C. is said to be that of Marseilles, which was founded in the 14th century and acted as a court of arbitration in mercantile affairs.

for the People was published in 1833; century these C. of C. in Franco were in 1835 appeared the Educational re-instituted. The objects of the Course, including the course of the cours ch chambers are to mediate

to adviso irks whose affect the nembers of ted by tho

merchants of the district selecor that purpose by the prefect. oldest British chamber is that of ry, which was founded in 1768.

pool in 1851. The London chamber, though most important to day, was o ly instituted in 1881. The London C. of C. numbers more than 3000 members. The chamber is divided into nunerous dopartments. Each departm

the mea

Frade; it petitioned the con-Chambers, Sir William (1726-96), an struction of the Suez Canal, and advocated the control of the telegraph down to Louis XV., and of Marshal system by the post-office. The Man-Saxe, Diane de Poitiers, Stanislaus chester chamber was energetic in the Leszczynski, King of Poland, and cause of Free Trade. Throughout Marshal Berthier, who had it con-Great Britain there are now similar bodies in all the important mercantile contres. An association of C. of C. of the United Lingdom was instituted in 1860, and membership is entirely voluntary. The general association meets in London in March of each year, and the decisions of this assembly have great weight in parliament. There are also independent British C. of C. in foreign countries. e.g. at Paris, Alexandria, Brussels, and St. Petersburg. In the British colonies there are also important C. of C. in the important mercantile eentres. Congresses of colonial and British delegates are held from time to time, and thus contribute to give an opportunity to the colonial boards to appeal to the home chambers.

Chambersburg, a tn., cap. of Frank-lin co., Pennsylvania, U.S.A., 50 m. S.W. of Harrisburg. The town has many fine buildings, among which is Willson College for girls. The trade of Willson College for girls. Inc trade of the town is extensive, and among its chief manufacturing industries are leather, cotton, and woollen goods, iron utensils, paper, and furniture; it has also large locomotive works. In has also large locomotive works. 1864 a portion of the town was destroyed by the Confederates.

(1900) 8864.

Chambertin, a rare red Burgundy produced from the vineyard of Chambertin in the dept. of Côte-d'Or, France, about 6 m. S. of Dijon.
Chambery, the cap. of the dept. of

Savoie, France, situated, amid beantiful seenery, in a valley 6 m. S. of Lake Bourget. The town contains some interesting old churches and a 15th-century cathedral. The castle of the dukes of Savoy was destroyed by fire, but was restored at the beginning of the last century and is now used purposes. The manufaeture and soap. Pop. (tn.) 15,683, (com.) 22,108.

Chambon - Feugerolles, a stcelmanufacturing tn. in the dept. of Loire, France, situated in the vicinity of St. Etienne. It manufactures swords and other military appur-tenances. Pop. (1901) 11.528. Chambord, a famous château of the

Renaissance period, situated in the dept. of Lolr-et-Cher, France, 12 m. E. of Blois. The building of the castle was commenced by Francis I. in 1526, and was completed by his successors of the houses of Valois and Bourbon. It is a huge pile, capped by many turrets and gables, and stands in a quented by Lamaist pilgrims. walled park of 13,000 ac. It has been Chameleon, the name of a large the residence of the French kings and distinct order of lizards in the

Leszczynski, King of Poland, and Marshal Berthier, who had it con-ferred upon him by Napoleon in 1809. After the death of Berthier it passed into the hands of the Comte de Cham· bord. Molière gave his first performance of the Bourgeois Gentilhomme in the castle in 1670. Consult Millot. Les châteaux historiques: Chambord, 1875; Arnauld, La Question de Chambord, 1887; and Miltonn, Castles and 1887; and Miltonn, Castles and Châleaux of Old Touraine, 1907. Chambord, Henri Charles Dieu-1887:

donné, Comte de (1820-83), posthumous son of the Due de Berri, and grandson of Charles X. of France, was born in Paris. Charles X. abdicated in favour of his grandson in July 1830, but the machinations of the people to put Louis Philippe on the throne cansed Charles and his grandson to flee to England for safety. C. subsequently went to Görz, where he came under the influence of the Duc de Damas, and became imbued with uncompromising ideas on pre-destination and the divine right of kings. His movements and plans were marked with great indecision, and his readiness to comply with the plans of the vacillating nobles who espoused his cause dissipated his chances of attaining to the throne. It was thus in 1848 his claim was lost. and again in 1870 at the close of the Franco-German War. At the fall of Thiers in 1873 his cause was finally He died at Frohsdorf, Ausruined. tria, without an heir, the nearest claimant being the Comte de Paris.

Chambre Ardonte (Fr., flaming chamber), a court organised in 1535 by Francis I. of France for the ap-pression of Protestant heresy. The atrocities committed there were notorious throughout Europe, and the chamber was so called because the favourite punishment of the institu-

tion was death by burning.

Chambre Introuvable (Fr. for 'the unique and unprecedented chamber'), the name popularly given to the Chamber of Deputies which was first convened in July 1815, after the second recall of Louis XVIII. It was bestowed by the king out of gratitude, athough some say in irony; for this parliament roused indignation and alarm throughout France for its thorough-going royalist policy. The term has since been sareastically applied to any ultra-monarchical assembly.

Chamdo, or Chiamdo, a tn. in Tibet, situated on the Lan-tsang; it has several monasteries, and is much fre-

family Chammeleontide which habit Asia and Africa, but especially Madagascar. Many of their charac-teristics are very peculiar, e.g. the long, prehensile tail used in steadying the animal by being coiled round a branch; the long, sticky, club-shaped tongue which can project about the length of its body; the eyes covered

and squinting; les of twos and head, flattened crest; and the

ent.

habit of changing colour which can be performed at will. They are all insectivorous, are rather quarrel-some and inactive, difficult to keep and

d in winter hibernate after taking in large supplies of food and water. Nearly all are oviparous, and the female lays her thirty to forty eggs in a hole in the ground. The commonest species is Ch. vulgaris, which never exceeds one foot in length, and Ch. parsoni is the largest species, sometimes measuring two feet from head to tail.

Chamfer, a term in masonry sig-nifying to groove, bevel, or furrow

stone.

Chamfort, Nicolas (1741-94), a noted French cynic and author, born at Clermont in Auvergne, France. His writings and brilliant conversation attracted a wide circle of admirers of actracted a wide circle of admirers of every class. Louis XVI. and Marie Antoinette favoured his literary efforts, but he was keenly opposed to the Royalist party during the revolutionary agitation. He, however, defeated his own purpose by directing his cynicism against his own party. His irate associates conspired against him, and to escape he was biography by Hltzig and his letters. obliged to commit suicide. His works, mainly apothegmatical and anecdot cal, were edited by Anguis and misso als published in five volumes. A smaller K. Lentzn-selection of his works, called The his Life an Cynic's Breviary, is translated by Chamois, Hutchison.

Chamldæ, a family of molluscs nearly related to the cockles, belongs to the order Eulamellibranchiata. The distinguishing characteristics of the species are the short foot, lack of byssus, two adductors, the fixed and asymmetrical shell, alsenco of a pallial sinus, and the pallial orifices are separated. The members of the family are confined to the warmer seas, and fossils are abundant from the Jurassic. Two of the chief genera aro Chama and Diceras.

Chamier, Frederick (1796-1870), a Chamond, St., a French tn. in the naval historian and novelist, entered dept. of Loire. It stands on the R.

in-| served in the Walcheren expedition. and on the Mediterrancan and West Indian stations. He was not employed after 1827, when he had attained to the rank of lieutenant, and six years later he was placed on the retired list, on which in 1856 he was promoted to be captain. He devoted his leisure to authorship. His most valuable work was a continuation of James's Naral History, but with his novels he appealed to a wider public. Though these stories of sea life are little read to-day, the names of the best of them, Ben Brace and The Arethusa, are still remembered.

Chamond

Chamisso, Adalbert von (1781-1838), a celebrated German poet and naturalist. He was b, at the château of Boncourt, Champagne, but grew up in Prussia, where his family took refuge during the French Revolution. In 1798 he entered the Prussian army, but in 1806, when war broke out, his patriotism led him to return to his native country. In Paris he became the friend of Madame do Staël at Coppet, where he met Sehlegel. this time he began the study of botany. which he afterwards continued at Berlin, being appointed curator of the Botanic Gardens in 1819. He edited the Musenalmanach (1832-8), and became a member of the Berlin Acad-emy in 1835. C.'s fame rests on his romantie ballads, which are by turns fantastic and lurid. Peter Schlemihls wundersame Geschichte, 1814, a wonderful prose tale, already known to folk-lore, of the man who sold his shadow to the devil, has been translated into almost every European tongue. C. made many verse stable being the

Consult Fu Zeit, 1881; laind

collected works

(Rupicapra tragus) inhabiting mountains of Central and Southern Europe (especially the Alps) and of W. Asia. Noted for great speed and agility, and delicate power of scent. The flesh is highly prized as venison, the skin furnishes true chamoisleather (sheepskin often sold as such). Hunting it is a favourite but dangerous amusement in Switzerland and tho Tyrol. In the Caucasus, Taurus, and Carpathians over 100 are often seen in a flock. The C. has short horns, and is grey-brown in colour.

the navy at the age of thirteen, and Gier, and is situated to the N.E. of

the manufacturing town of St. Etienne. Its chief industries are the manufacture of silks, laces, and ribbons. It The produce of the vincyards on the ture of silks, laces, and ribbons. It also possesses iron work, while coal is found quite near. Pop. about 15,470.

Chamounix, Chamounix, or Cha-mouni, a beautifully situated vil. on the Arve in the dept. of Hauto-Savoie, France. The village is about 40 m. distant from Geneva. It is situated in a narrow ravine to the N. of the Mt. Blane rapes Seven glaciers are in its near vicinity. G. is the best approach to Mt. Blane, and is therefore thronged with tourists. The air at this spot is very bracing, and at all scasons valetudinarians here seek health and strength. Saussure, who had the honour in 1786 of first ascending M. Blanc, made his ascent from this point, and a statue of him in the village memorises

famous champagne wine. The pro-vince was ruled at one time by the Franks, and later by native princes, the vassals of the French kings. In 1284 it passed to the French crown by the marriage of Philip IV. with Jeanne de Navarre.

de' Mcdici. He was appointed rector cut'es, a small quantity of sugar, and of the Académie de Peinture et de Some fine cognac. The quantity of sculpture, and received frequent eommissions from Cardinal Richelieu. In his later years he became associated with the Port Royalists and the Jansenists. His best known pier wine, the English a dry and lively tures are: 'The Last Supper,' from the Marsian of the Marsi

banks of the Marne is the eholeest in flavour. In colour C. W. are white, pale amber, pink, or red, and in character are still, creamy, and sparkling (or mousseaux, cremans, sparking (or mousseaux, cremans, and non-mousseaux), of which the last is the choicest. The white wines are sent to the English, Russian, German, and French markets; the red wines are mailly consumed in Belgium. The vine in the Champagne country is grown on chalk, and is most carefully cultivated. (hampagne, like other light wines (e.g. Moselles, Ho-De Moselles, Ho-'-

fermentation acid gas does not entirely escape. The his ascent from this point, and a statue of him in the village memorisatue of him in the village memorisatue of him in the village is 3425 ft., and the pop. (1901) 2723. See Whynper's Chamonix and the Range of Mont Blane, 1836.

Champac, or Michelia Champaca, is an Asiatic species of Magnoliacee which is cultivated in China for its beautiful and scented flowers, handsome appearance, medicinal bark, and useful timber. It is a sacred tree of the Buddhists and Brahmins.

C' the Buddhists and Brahmins.

C' The process of bottling continues from April to June. The bottles are secured by means of an iron adjustment called an dardenne, and part of Scinc-ct-Marne, Aisne, and Yonne. The province was about 180 m. long by 150 m. broad. The land is fertile in the western region, and its vineyards produce the press in baskets shielded from the stress rays. They are disturbed as the substitute as possible while being placed on the press. They are disturbed and the rich aday to allow the dregs to settle. When fermentation sets in blackets shielded from the substitute as possible while being placed on the press. They are disturbed as the rich amber-coloured liquid is placed in hospitads of about forty-four gallons in capacity. At Rheims from April to June. The bottles are secured by means of an iron adjustment called an agrafe. This appliance clasps the necks of the bottle at the rim, and can be adjusted and readjusted at will. The bottles are then laid out horizon-tally, and fermeutation goes on the press, and the view appearance, medicinal bark. It is a placed in hospitads of about forty-four gallons in capacity. At Rheims are filled and the corks are secured by means of an iron adjustment called and early stream of an iron adjustment called and the corks are secured by means of an iron adjustment called and the corks are secured by means of an iron adjustment called and the corks are secured by means of an iron adjustment called and the corks are secured by means of an iron adjustment called and the corks are secured by mea grapes are carried from the vineyards this process there is considerable loss owing to the bursting of bottles. Then follows a period of long and careful treatment. The bottles are fixed neck downwards on a rack, and as the position is slightly altered day by day te sediment gradually collects on The degorgeur then loosens and the cork is driven out

Champagne (or C' The degorgent then loosens lippe de (1602-74), painter, born in I studied under Fouquières at Antwerp, but in 1621 went to Paris, where he became 'queen's painter,' gorgement. The space thus left is where he became 'queen's painter,' gorgement. The space thus left is where he became 'queen's painter,' gorgement. The space thus left is where he became 'queen's painter,' gorgement. The space thus left is where he became 'queen's painter,' gorgement. The space thus left is In this capacity he painted decorations in the Luxembourg for Maria de' Mcdici. He was appointed rector curées, a small quantity of sugar, and

Champagne Wines are produced in tion and flavour. The ordinary the old prov. of Champagne, which qualities are stored for about five years.

in the dept. of Jura. It stands on the writer. R. Ain, a trib. of the Rhône. Pop. of litera about 3680.

Champa gn. a city in the Cha U.S.A. It has e-Josephing !

the most notable or University. Pop. (1900) 9098.

in Paris over half a mile long, and about 550 yds. wide. Once it was the scene of military reviews, and since the Great Exhibition of 1867 has been the principal site for events of that nature, but the square, which was named after its famous Roman prototype, possesses an historical interest by reason of the many scenes it has witnessed. During the Revolu-tion it was the field of the fete held on the first anniversary of the fall of the Bastille, when a vast assembly acclaimed the federation and vowed eternal devotion to their country. In 1791 a regrettable massacre occurred, and in 1894 Napoleon distributed the imperial standards in this square.

Champel-sur-Arve, a suburb of Geneva, and fashionable health resort. It has a fine hydropathic and several (

large hotels.

Champerico, an important harbour of Central America, situated on the Pacific coast of Guatemala. C. is also the terminus of the San Felipe Railway. Pop. 1500.

Champerty, or Champarty (Lat. campam partire. to divide the land), that, in consideration of the enamerate the coronation cannot amore the performance of the action at his challenged to single combat any who own expense, the land or other should deny the covereign's right to subject matter of the action shall reign. The challenge was never in the event of success be divided accepted, but the picturesque cerebetween them. C. is a misdemeanour monial was performed up to the punishable by fine or It has been champertous agreement w vuc.

Champagnole, a French tn. situated a great reputation as a realistic the dept. of Jura. It stands on the writer. His history of caricature, Ain, a trib. of the Rhône. Pop. of literature, of art (1825-40), and out 3680. written after he was appointed director of the Sévres potteries in 1872, are of great value. Among his novelsare: Chien-Caillou, 1847, which won the praise of Victor Hugo; Con-University. Pop. (1900) 9098. Won one praise of victor rugo, con-Champaran, a dist. of Bengal, fessions de Sylvius, 1849; Aventures India, situated in the Patna div. of de Mariette, 1856; Les Souffrances N.W. Bihar. Its area is 3531 sq. m., du Professeur Delleil, 1853 (translated and its pop. (1901) 1,790 463. Champ de Mars, a large open space Nauphly Boys, or the Sufferings of in Paris over half a mile long, and Mr. Delleil; Bourgeois de Molinchart 1855, a satirical tale of provincial life among the middle classes; and Le Violon de Faience, 1862, generally considered his masterpiece. His biographies are excellent and include Honoré de Balzac, 1852. His Les Chats (1868) has been translated into English under the title The Cat, Past and Present, 1885.

Champigny, a tn. in France, dept. Seine, on the river Marne, and 6 m. E.S.E. of Paris. It has manufs, of plano keys and embroideries. There is an early Renaissance chapel, and C. was the scene of two battles during

the siege of Paris, 1870. Pop. 8600. Champion (Late Lat. campio, from campus, a field or open space), in the judicial combate of the middle ages the hired combatant who took the place of women, children, aged persons, or any incapable of fighting their own battles. These 'Cs.' were of the lowest class, and were recarded as 'disreputable persons.' Later, in the age of chivalry, the name acquired a higher meaning and was applied to a knight who challenged in criminal law is a species of main, or defended on behalf of an injured tenance or officious intermeddling in lady or child. The office of crown C a law suit which in no way concerne is peculiar to England. The 'King's one. The crime consists in making a C. in full armour and monnted on one. The enime consists in making a C.' in full armour and monnted on bargain with a plaintiff or defendant borseback rode into Westminster Hall that, in consideration of the cham- at the coronation bangnet and at the coronation banquet and

is held by the

exercise influence in procuring Championnet, Jean Antoine Etienne evidence to support a claim for (1762-1800), a French general, born money upon conditions of receiving at Valence in Drome. He enlisted a portion of the sum recovered. See in the army at a very early age and a portion of the sum recovered. See in the army at a very early are and also Maintenance.

Champfleury, Jules Husson (1621-) When the Revolution broke out he S9), French author, born at Laon, took a prominent part; suppressed He wrote under the name of Jules the Girondist movement in the Jura Fleury-Husson. He went to Paris; (1793) without bloodshed; was at a very early age and joined the brigadier-commander in the Rhine Bohemian circle of Baudelaire and campaign, and by his stubborn resistance for the theatre in which, as contributed to Jourdan's victory. In well as in his later romances, he won 1798 he was appointed commander-

in-chief of 'the army of Rome,' de-fended Rome against the Neapolitans Champlain and elsewhere in N and the British fleet, and finally cap-tured Naples (1798), setting up the Parthermore (1798), setting up the Parthenopean republic there. His now dried up, in their neighbour-intolerance of opposition was the cause of his recall from Italy in disgrace. In the following year he was appointed commander-in-chief of the 'army of the Alps,' but was defeated at Gendla (1799) by the Austrian and Russian troops, and retired to Nice. He died at Antibles are laftlefield; educated at Charter-retired to Nice. He died at Antibles are laftlefield; educated at Charter-laft laftlefield; educated at Charter-laftlefield; e retired to Nice. He died at Antibes in the following year.

Champlain, Samuel de (1567-1635), French explorer, founder of Quebec and first governor of French Canada. born at Bronage (Saintonge). His youth was spent in the army of Henry IV., and in an expedition to the W. Indies of which he wrote an account in Bref Discours des Choses plus remarquables que S. Champlain a recognues aux Indes Occidentales (first published in French, 1870). In 1603 he made his first voyage to Canada. On his third voyage (1608) established he founded Quebec, established friendly relations with the Indians, and founded a prosperous for trade. In 1612 he was made lleutenant of In 1629 Quebce fell Into the hands of the English, and C. was taken to England as a prisoner. taken to England as a prisoner. At the treaty of St. Germain (1632), which restored Canada to France, C. returned to Quehec as governor. See General de Champlain (6 vols.), 1890, and Voyages (3 vols.), 1878-82; also Life by Dionne, 1891; and in Makers of Canada Series, Champlain, by Dionne, 1905 Dionne, 1905.

Champlain, a lake in the N.E. of Lycenm of Grenoble, which he was the United States, lying Vermont and New York.

and is connected by a canal with the hierozyphics represented ideas or Hudson. It has an elevation of about 95 ft. above the sea, and an area of tweoty-five letters. By degrees he discovered the nahout 750 sq. m. heing mately 110 m. long by from 1 1821-6, pointed

Americans in the naval war of 1812-

Champlain Epoch or Period, t
name given by Professor Dans to t
period succeeding the Glacial 10
N. American geology, equivalent to
the post-Glacial period of British
geologists. The chlef traces left by
the C. E. are the deposits, in-(1778-1867), a French arebæologist

at Liehfield; educated at Charter-house and Trinity College, Cam-Among the buildings which bridge. he has designed are the Divinity and Literary Schools, Cambridge; Newn-ham College; Mansfield and Somer-ville Colleges, and Lady Margaret Hall, Oxford; Butler's Moseum, Harrow; Ryland's Library, Man-ehester. He is now cathedral archi-tect at Manchester. His publications include: A Quiet Corner of England. 1875; Henry Merritt; Art Criticism and Romance, 1879; Coventry Palmore, Memoirs and Correspondence, 1901.

Champollion-Flgeac, Almé Louis (1812-94), a French anthor, born at Grenoble, and son of Jean Jacques C.-F. He was assistant librarian to his father at the Royal Library; also published several works on French history, art, and palæography, and edited a number of memoirs.

Champellion, Jean François, la Jeune (1790-1832), a French Egyptologist, born at Figene, in the dept. of Lot, Franço. He was a great student of Coptic, and, indeed, of all Oriental languages. In 1816 he was appointed to the professorship of history at the

and narrow, its northe stretching for nearly 6 m. into monuments, C was led to believe that Cauada. It is drained to the N. by the three systems of Egyptian writing the Richellen into the St. Lawrence, were identical, and inferred that the

mately 110 m. long by from 1
broad. To the E. lies the G
rauge. to the W. the Adirondacks.
The lake was discovered lo 1609 by
Samnel de Champlain, who gave it
his name. It has heen the seene of
many skirmishes during the French
and Indian War, and during the
American Revolution. In 1814 the
British fleet was defeated by the
Americans in the navalwar of 1812.

elder brother of the more famous, the screen is frequently called the Jean François C., born at Figeac. Sanctuary. According to English He became professor of Greek at law the rector has special rights over conservator of MSS. in the Royal Library at Paris. He lost this position through Carnot on account of the February revolution, but after munion and for marriage services. the February revolution, but after-wards was made keeper of MSS, at the Bibliothèque Nationale in Paris,

Chamusca, a tn. of Portugal, in the prov. of Estremadura. It is situated on the river Tagus, 12 m. from Wine is largely produced. Santarem.

Pop. 3500.

Chanar, an old fortress and tn. of

Chanar, an old fortress and tn. of British India, situated in the dist. of ifirzapur, on the r. b. of the river Ganges. Warren Hastings lived here. There is a state prison in the neighbourhood. Pop. 11,500.

Chañaral de las Animas, a tn. of Chile, S. America, situated on the coast, in the prov. of Atacama, 75 m. N.N.W. of Copiapó, and 48 m. from Caldera. It is, next to the latter, the most important port. There are There are The most important port. There are copper mines in the district. The water supply is obtained by condensation from salt water. Pop. 4000.

see PROBABILITIES,

Chance- or Chaud-Medley, origin-ally meant any carual affray accompanied with violence but without deliberation or preconceived malice. The expression, though seldom used, now means the killing of another in self-defence upon a sudden and unpremeditated encounter. C.-M. is to be distinguished from manslaughter, for the latter is a crine, but the former an excusable act. The general distinction is that, if both parties are actually fighting, he who gives the mortal blow is cullty of manslauchter, but if one of them at first refuses to fight and retreats until, at last, to avoid his own destruction, he kills his antagonist, that is excusable homicide, or, as it is inaccurately

termed, C.-M.

munion and for marriage services.

Chancellor (Lat. cancellarius). The the Bibliothèque Nationale in Paris, primary meaning of concellarius is also professor of palæography in the one who is stationed at the lattice-Ecole des Chartes. In 1849 he was work of a window or door-way, to appointed librarian of the palace at introduce visitors, etc. In another Fontainebleau. He wrote several sense, concellarius was a kind of legal works on historical and philological scribe, so called also from his possubjects, and was editor of some of his brother's works. emperors and in the court at Constantinople, was a chief scribe or secretary who was ultimately in-vested with judicial powers and a general superintendence over the rest of the officers of the emperor. All the modern nations of Europe have or have had Ca. though the powers and duties seem to have varied in each In England the C. was cricically the king's chief secretary, to whom peti-tions were referred, by whom patents and grants from the crown were ap-proved and completed, and by whom reports upon such matters were, if necessary, made to the king; hence in Saxon times he was sometimes styled referencerises. The name C. is said first to occur in English history in the time of Edward the Elder, A.D. 920. In early times, as the C. was usually an ecclesiastic head chaplain and father confessor to the king, he became keeper of the king's conscience, examiner of his patents, the officer by whom prerogative writs were prepared, and keeper of the Great Seal. The last ecclesiastic who exercised the office was John Williams. Archbishop of York, from 1621-25. The interference of the king, as the source of justice, was frequently sought against the decisions of the courts of law; and also in matters which were not comisable in the ordinary courts, or in which from themaintenance of protection afforded to his adversary, the petitioner was unable to obtain redress. The Eng-lish C.'s jurisdiction sprang from this royal discretionary authority. (See also CHANCERY, EQUITY.) It may be Chancel (Late Lat. concellus, a jobserved that although the Euglish screen), the eastern part of a church, C.'s powers were so closely interwoven usually separated from the nave by with the development of equity he an open-work screen or rail. In some nevertheless possessed at one time a an observal churches the screen is very political pre-eminence not only far high, so that the congregation is completely shut off. The choir stalls and day, but second to none in the state; the rector's pew are in the C. and the for on the decline of the office of communion table on a raised plat chief justiciar, the C. succeeded him form at the far end. The term C is as the chief insister. The Earl of often used as synonymous with choir. Suffolk in the reign of Richard IL, but small churches the street behind to contain the reign of Richard IL. in small churches the space behind for example, exercised authority not

only over revenue matters, but also which dispensed both equity and over foreign policy. Like the justiciar, common law and the course of prohowever, the office of C. always tended to hecome a purely legal one. tures were bound to follow. The The style of the C. in England is Lord office of C. of Seotland expired in High C. of Great Britain. He takes rank ahove all dukes not of the royal with England, it was provided that blood and next to the Archibishop of these should in future when the provided that blood and, next to the Archbishop of Canterbury, is the chief indge in England, and has a seat in the cahinet. He is appointed hy delivery of the Great Seal, sits on the Woolsack, presides at debates in the House of Lord and the Architecture. of Lords, and goes ont with the government. A Roman Catholic may not be Lord High C. of England. The salary of the Lord C. is £10,000 a year, and an ex-Lord C. receives a pension of £4000 a year, but on going out of office he usually conducts a great deal of judicial work, presiding in the House of Lords, sitting as the litimate Court of Appeal and hearing nitimate Court of Appeal, and hearing appeals to the Privy Council. In the House of Lords he presides as speaker. He is the guardian of infants and their property, and has jurisdiction over idiots and lunatics by special delegation from the erown. He is qualified to sit in the Court of Appeal, and presides when he sits there, and is the titular head of the Chaocery Division. He appoints the judges of the Court of Appeal and the High Court and the county courts, and may remove county court judges if necessary. He also appoints county justices of the peace on the recommendation of the lord-lieutenant,

Speaker of the Commons, and reads the king's speech in the absence of the latter. He has the presentation of various canonics and livings, dispenses a wide patronage in addition to that CONCULTE

indges respect to writs of habeas corpus (q.v.), and Is, ex officio, vestor of all hospitals diction is in most respects the as that of the Lord High C. of

England the C. for the most part being well received there, and cononly carved out for himself a jurisdiction in equity, in Scotland he of trado to English ships. On a
reached the head of the administrateached the head of the administration in justice, and sat in a conrt wreck off the coast of Aberdeen.

Great Seal for the United Kingdom. The C. of a bishop is vicar-general to the bishop, and presides over the bishop's consistory cont. He must be a harrister of at least seven years' standing. The C. of the Dnehy of Lancaster, an officer who presides in the duchy chamber of Lancaster, adjudicating on equity matters concected with the crown lands of the dnehy. He is one of the titular heads of the Board of Agriculture. The C. of a cathedral is one of the four chief dignitaries of cathedrals of Great Seal for the United Kingdom. c. of a cathedral is one of the four-chief dignitaries of cathedrals of ancient foundation. The C. of the Exchequer is the principal foance minister of the crown. The office is sometimes held by the Prime Minister when he is a member of the House of Commous. His legal functions are now merely formal, such as presiding at the eeremony of nominating Constitutionally ho is the sheriffs. Under-Treasurer, the office of Lord High Treasurer being now executed by the Lords Commissioners of the Treasury. His volce, however, may be all-powerful in connection with the Exchequer, the degree of political eminence varying with the qualities of the individual who holds the Exchequer seat. (See under under Excheques, Chancellor of.) The Cs. of the universities of Oxford and Cambridge are the titular heads of the universities, and are elected by the respective corporate hodies of which they are the heads. Their duties are mainly discharged by a vice-C. The C. of the Order of the Garter and other orders of knighthood, seals and authenticates the formal instruments of the chapter and keeps the register and is, exoflicio, vestor of all hospitals Chancellor, Richard (d. 1556), an and colleges founded by the crown. English navigator; appointed in 1553 There is also a Lord C. of Ireland, as captain and pilot-general of the whose anthority within his own of the order. to search for ia. The shlps Britain. His salary is £8000 a year, were separated in a storm off the ~oden Islands, and C. reached dohus, the meeting-place that been agreed upon, and after ting seven days in vain for the of the company, he went on ie into the White Sea, from whence travelled to the court at Moscow,

there should in future he but one

Chancellorsville, a vil. of Virginia, 1348 the so-called Court of C. was or United States, situated in Spottsyl- was not merely the royal council. vania co., between Richmond and Washington. It was the scene of one of the greatest hattles of the Civil War in 1863, when General 'Stone-Jackson received his death Hooker was wound and General defeated.

Chancery (Lat. cancellarius. chancellor). Before the fusion of common Judicature Act, 1873, the Court of C. was the name given to the court which had the sole administration of equity. Since 1873, when the Supreme Court of Judicature was established to exercise the consolidated juris-dictions of the old courts of C., King's Bench (q.v.), Common Pleas (q.v.). Exchequer (q.v.), and Admiralty (q.v.), Probate, Divorce, and Matrimonial Causes courts, the administration of equity became competent to all courts of law, and the C. division now means that side of the High Court of instruments, and the wills. It consists at of six pusine judges,

Chancellor as titular head. History.-The whole course of the gradual evolution of the Court of C. is intimately connected with the dereligious to equitable principles; principles which, borrowed partly from the civil and canon law, and partly from the dictates of natural justice, were designed to redress grievances for which there existed no established in 1348 by an ordinance their authority from special delega-which vested in the Chancellor tion of one of the C. judges. These plenary authority in 'matters of were principally the Masters in Ordi-grace and favour.' But whether after nary and the Accountant-General.

sitting in a place called the Chancery to hear petitions of 'grace and favour' in cases which the common law could not reach, the Chancellor gradually usurped the judicial functions of the council and sat as a judge alone. The power of the Court of C. after it ceased to follow the king in 1348 was developed mainly through the Chanlaw (q.v.) and equity (q.v.) by the cellor's delegated authority to invent new writs to meet eases for which the common law judges were unable to give redress either because of some defect of principle in the law itself, or hecause such remedies as it did provide could not avail against the oppression or local influence of one of the parties. From and after the end of the 14th century the judicial power of the Court of C. increased enormously in spite of remonstrances from the common law judges and the Commons. At the time of Coke it exercised an ordinary or common Justico to which is assigned tho trials law (secundum legem et consuctuof certain special causes. As a fact denem) jurisdiction and an extrapractically all matters falling within ordinary (secundum æquum et bonum) of certain special causes. As a fact practically all matters falling within ordinary (secundum aguum et bonum) its old jurisdiction are still heard in jurisdiction, in the former giving the C. courts. The principal matters assigned to the C. division relate to the estates of deceased persons, partnerships, trusts, partition or sale of real estates, specific performance of contracts for the sale of land or contracts for the sale of land or other property, the redemption or grounds of equity. The characteristic of infants' estates, cancellation or rectification of deeds or other written reach powerful personages, who instruments, and the nmon law courts, and

by the instrumentality poved causes from the common law judges or reversed their decisions, and committed a plaintiff for contempt who persisted in going on in the common law courts against conscience, and in defiance of the order of the C. Court. The constant struggles between the common law judges and the C. Court calminated in the historic contest hetween Coke and Ellesmere in 1616, when the king pronounced in favour of the Changrage. available remedy at common law pronounced in favour of the Chan-The king as the fountain head of cellor. From that time the Court of justice, enjoyed the prerogative of C. became the dominating power in dispensing justice personally in his the justiciary, and the rules of equity royal council (curia regis). Later were made to prevail over those of the judicial side of the royal council common law. Down to the middle of the judicial side of the royal council common law. Down to the mudule of became specialised in the concilium the 19th century the business of the ordinarium acting as a Court of Court Proceedings in the old Court of C.; an English classical archeologist, born were conducted by Bill and Answer. The Bill set out the facts as alleged by the plaintiff, prayed for relief, and concluded with a request for a subpæna to compel the appearance of the defendant for examination. The defendant's answer usually contained a demurrer (q.v.) to the Bill, various pleas in reply, and a denial of the truth of the allegations, with his own version of the case. Scientific precision indeed was completely subordinated to conscience, but the true spirit of equity was in a measure violated by the gradual tendeucy of the procedure to as complete a technicality as that of the common law. The partial fusion of administration of equitable remedies effected by the Judicature Acts has to a great extent modified the excessive technicality of the C. Court, or its modern representative the C. Division. It may be noted that in most of our colonies there are Courts of C. hased more or less on the model of the English courts. There were also C. courts in some of the states which composed the N. American Union.

Chanda, a tn. of British India, in the Nagpur division of the Central provinces. Until 1751, it was the

climate extremely unhcalthy. There are manufactures of silk and cotton goods and bamboo articles. A yearly fair is held, which lasts three weeks. Pop. 18,000.

Chandausi, a tn. of British India. situated in the Moradabad dist. of the N.W. Provinces, 30 ni. S. of Moradabad. It exp sugar. Pop. 28,000. It exports cotton and

Chandelier, a frame of metal or crystal suspended from roof or eciling for the purpose of holding lights. They were originally made of wood, but were superseded by metal, as being more suitable.

Chanderi, a tn. of Central India, in the state of Gwalior. It is now under British government, but was formerly an important nativo town, and has

a strong hill fort. Pop. 5200.

a strong hill fort. Pop. 3200. Chandernagore, or properly Chandarnagar ('city of sandalwood'), a darnagar ('city of sandaiwoou), of French settlement in the prov. of Bengal, India, 20 m. N. of Fort William, Calcutta, on the r. b. of the sub-governor, but is not of much sub-governor, but is not of much commercial importance, owing to the river not being navigable, though in river not being navigable, though in ladia. He was son of a king of mother being of humble carlier times it seemed like. carlier times it seemed like Calcutt by the

at Elson, Hants, and died at Tilehurst, near Reading, Berks. He was educated at Winehester, and at Queen's and Magdalen, Oxford. In 1763 he published a detailed description of the Oxford marbles in his Marmora Oxoniensia, which was printed at the expense of the university. In the following year the Society of Dilettanti sent him out with Revett and Pars to study the antiquities of Greece and Asia Minor. On his re-turn C. published his discoveries in Ionian Antiquities, 1769; Inscriptiones Antiquæ, 1774; Travels in Asia Minor, 1775; and Travels in Greece. 1776. He was given the title D.D. in 1773. See an 'Account of the Author,' prefixed to Churton's edition of the Travels, 1825.

Chandler, Samuel (1693-1766), an English nonconformist divine, born at Hungerford, Berkshire, where his Ho was edufather was minister. cated at Giouccster, where he met his life-long friend, Bishop Butler. He became foilow of the Royal and Antiquarlan Societies, and was made D.D. of Edinburgh and Glasgow. From 1716-26 he was minister at Peckham, from then preaching at the Old Jowry until his death. writings were numerous, and he took a prominent part in the delst eon-troversics of the time.

Chandor, a tn. of British India, in the Presidency of Bombay, 130 m. N.E. of Bombay eity. It is strongly fortified, the fort being on the summit of a high hill, and it thus commands the route from

It was taken zovernment in

1804. Pop. 5000.

Chandos, a great English family, descended from a follower of William the Conqueror, of Norman times: Sir John Chandos (d. 1428) was

the last representative in direct male

Sir John Brydges, a descendant in the female line, was lieutenant of the Tower under Queen Mary, and was created Baron C. in 1554.

James Brydges, the eighth Lord C., was created duke in 1719. The C. residence, once at Canons, near

Edgware, is now destroyed.

Chandpur, a tn. of British India, situated in the district of Bijnaur, 70 m. N.E. of Delhi. Pop. 12,000. Chandragupta, or Sandrocottus

a youth he was forced

his kinsfolk, and during gathered round him a

later b Chandler, Dr. Richard (1738-1810), great company of warriors, then attacked the " quered the Pu

Magadha, sie lished himself on the throne, and m due time his kingdom extended from the Hindu-Kush to the Bay of Bengal.

Chandrakona, a tn. of British India, situated in the dist, of Midna-poor, Bengal, 59 m. W. of Calcutta. Pop. 21,000.

Chang, a name given to the Tibetan plateau which breaks up about the meridian of 92° E. Scientific investigations have not been systematically carried out in this region as yet, but it is known that the Himalayan tributaries of the Brahmaputra derive their sources from the Tibetan nlateau.

Chang Bhakar, or Chang Bhuker, a native state of Chuta-Nagoor, India, with an area of 900 sq. m. The capital is Janakpoor, which is merely a small village, and the state is principally jungle. Pop. 9000.

Chang-chia-wan, a small town in Chih-li, China. It is situate: ""::: Chinese treacherously controls several English officers und of truce.

Chang-Chih-tung (1837-1909), a! Chinese sebolar and statesman, born i in the province of Chih-li. From 1889-1907 he was vicercy of Hukuang. In character he was a great dreamer and enthusiast, and very unpractical. He had great literary powers, and his knowledge of the Chinese classics was unrivalled. He is said to have been one of the most able men in modern times, and his powerful personality and true patriotism won for him a high position in the regard and trust of his fellow-countrymen,

Chang-chou-fu, two cities in China. The first is situated in the province of Fo-Kien, about 25 m. n. of the lit has manufactories of bricks and little second belongs to the province of

Kiang-su.

Chang-pai-Shan, Lao-ling, or Shan-Alin Mountary and the prove of the p on the S.

Chang-sha-fu, the eap. tn. of the prov. of Hu-nan, China. It is well situated on the bank of the R. Hsiang. The town faces on to the river, the 38 in. The soil is rich and fretile, and bank of which is lined with junks to the extent of nearly 3 m. It carries tants send a great supply of early on a considerable amount of trade, potaces, grapes, tomaches, vego-and possesses a depot for timber tables, and fruits of all kinds to the

1---- and con-) poles. It has also a celebrated eollege known as Yo-lo.

Chang-te-fu, two eities in China. The first is in the province of Ho-nan; and the second in the province of Hu-nan, situated on the R. Yuan, which is the chief means of communication from the neighbouring province of Kwei-ehou.

Changarnier. Nicolas Anne Théo-dule (1793-1877), a French general of note, born at Autun. He was for years governor-general Algeria, and served in the Spanish War, 1823. He later on obtained a military post in Paris, where he subdued the communist struggles of 1849. He was arrested in 1851 for opposing Napoleon III., and exiled from France, to which he only returned eight years later, after the settlement of 1859. He joined with Bazaine in the war of 1870, and when the town of Metz was captured he was taken prisoner and sent to Germany. Change (derived from Lat. cam-

here, to barter), a moeting-place for the name has been the increase of an abbreviated form of end is written thus-

especially pecvish was regarded as a C. Great precautions were taken in the guarding of the mortal infant, and often some charm was left in the cradle. It was supposed the exchange could only take place before the christening, and that afterwards the mortal infant was safe.

Channel, The English, see ENGLISH

CHANNEL Channel Islands, The, a cluster of small rocky islands lying off the N.W. sman rocky litarius lying on the 18 17 17 east of the coast of France, and between 90 and 100 m. S. of England. The group consists of the islands of Jersey and Guernsey, the largest of them all, others being Alderney, Sark, and Herm, and others smaller still, such as the Casquets, Jethou, Breehou, Dirouilles, Paternosters, Burhou, Minquiers, and Chausseys, which are merely minute rocky islets. The total area of the islands is about 75 sq. m. The waters around are so full of recis as to render navigation exceedingly dangerous, especially in the vicinity of Jersey and Alderney: many beats have been wrecked on the Casquets. The climate is mild and equable, the annual mean temperature being 51.7° F., and the rainfall varies from 34 to

English markets. Shrubs such as the scheme was set on foot, and operacamellia, hydrangea, and myrtle grow well in the open air, and the vegetation is luxuriant in most parts. One of the most important industries of the islands is that of the fisheries. which include cod, lobsters, and oysters. The islands possess their own peculiar breed of cattle: they are usually rather small and well shaped. and well known for their splendid milking capacity: the quality of the breed is carefully watched. The natives are of Norman descent, are most industrious and enterprising. small, varying from 5 to 20 acres, years shoved intention of once more about two-fifths of the cultivated approaching parliament on the subland being farmed by the owners ject.

Channing, Sir Francis Aleton for the people of the islands is a North the people of the islands is a Norman-French patois, while modern French is the language spoken in such places as the law-courts, the churches, and assemblies of all kinds; but in all the achools English is taught. The population in 1821 was 49,439, and by 1901 it had increased to 95,840. The islands practically have independent rule: the principal executive officer in Jersey, also in Guernsey, is the lien-The popular astenant-governorsemblies include life members, or missio lurats, the clergy, the mayors of different towns, and members, the last Centra being chosen by the people. Most of Agricu the inhabitants embrace the Protes. Instinct, tent religious and the islands belong Historica. the inhabitants embrace the Protestant religion, and the islands belong Historical Authorities, The Second in the erclesiastical sense to the Ballot, and other works.

diocese of Winchester. Rates and Channing, William Ellery (1780-taxes are very light. There are 1812), an eminent American Unitarian preacher and writer, horn at Newbort leeks, tumuli, etc., which give and

before Napoleon I that a roadway should be built under the English should be built under the English ism, although he himself ongeneral to Channel, and that the means of locomotion should be earlied on by horses. After railways had come into vogue, it was suggested by some English and Shrank from ecclesiastical was suggested by some English and French engineers that a tribe should be laid along the bed of the sea. William Low, in the year 1867, thought that two single-line tunnels, with numerons passages to connect them, could be engineered. At the Paris Exhibition of that same year a model of a tunnel was shown by Thomé de work of a tunnel was shown by Thomé de Gamond, and in 1872 the English of a tunnel Tunnel Co. was formed. The

tions hegun at Sangatte, near Calais, and Shakespeare's Cliff, near Dover. headways having been bored for 2000 yards under the sea at either end. But the plan was not allowed to proceed, for the English military anthorities refused to sanction it, saying it would greatly increase the necessity for defensive precautions, and parliament also strongly opposed the scheme. During the experimental proceedings coal was discovered near Dover. In May 1904 the Paris Chamber of Commerce passed a resolution

tician. He was educated at Exeter College, Oxford, and was tutor and lecturer in philosophy at University Coilege in the same town. He is the concae in the same town. He is the only son of the late Rev. William Henry C., and married in 1869 Elizabeth, daughter of Heury Bryant of Boston, U.S.A. He has taken an active part in promoting agricultural, educational and labour articles. educational, and labour reforms. He was a member of the Royal Com-

several megalithic monuments, cromprehens and writer, horn at Newport, leehs, thmuli, etc., which give evilous the graduated at Harvard dence of the existence of a prehistoric race of inhabitants. The islands of the Federal Street Coursegational first became British possessions of William the Congression of William the Congression of William the Congression of Britain's ancient Norman possessions.

Characteristics of the Federal Street Coursegational Church, Boston, where he acquired a the accession of William the Congression of Britain's ancient Norman possessions.

Characteristics of the present and writer, horn at Newport, Roboton, where he acquired a the accession of William the Congression of Britain's ancient Norman possessions. ing. His early preaching was Cal-vinistic in doctrine, but in 1819 he preached a sermon at the ordination of the Rev Jared Sparks in which he present of prosections.

Channel Tunnel. M. Mathieu, a of the Rev Jared Sparks in which he recommunication propose submarine communication in the Unitarian position. C. became into the Unitarian position. The land the suggestion in a controversy in which he involved in a controversy in which he is the Unitarianwas called the 'apostle of Unitarian-ism.' although he him-elf objected to the term in the sense it is commonly

English authors, notably Wordsworth and Coleridge. His works include: Remarks on National Lilerature, 1823; On the Character and Writings of Fencion. 1829: On the Character and Writings of Fencion. 1839: an essay on Neoro Statery. 1835; and Sclf-Culture and the Elevation of the Masses, 1838. His complete works called the Termination. The term were published in five vols. in 1841, and in 1875 were reprinted in one vol. His sermons were collected and published in 1872. Consult the Life published by his nephew. William Henry C. (3 vols., London, 1848), and that of J. W. Chadwick (Boston, 1903). Chansons de Gestes (Lat. getin). The name given to long narrative poems written by the trouvères of N. In an asylum and also a school-france from the 11th to the 15th century, in number about 110 according to Gautier. Probably as early as the 9th century epic poems began to be known, as chanted by the minstrels, or jongleurs as they were called. The most famous and noblest of them all, which appears to have been written between the years 1066-95. Most of the C. are also lesser cycles, such as Garin de Lorraine, and all are connected one with the other. Probably the most important cycle was that one which gave an account of the doings of Chanlemagne, and was known as the Ceeled Rot It described the life of Siam. It has been a stronger Christian and honey and charles and and was known as the Ceeled Rot It described the life of Siam, in the pror of Northwestern in the Propagation of the Northwestern in the Propagation of the Propagation of the Northwestern in the Propagation of the Northwestern in the Propagation of Northwestern in the Propagation o with the other. Probably the most important cycle was that one which gave an account of the doings of Charlemagne, and was known as the de Guillaume, which tells of the brave men of the south who render faithful service to the throne. There are a great number of poems telonging to this cycle, and are some of the earliest this cycle, and are some of the earliest brison, Loire. He brought our many now extant. The subjects of these works, the majority of which deal chansons de gestes are nearly all with the 17th century. His most imtaken from French history, and written in verses of ten or twelve Redz d Paffaire du Chapeau, in two syllables. Their general character is rolumes, published in 1878; then in inclined to hardness and coarseness, want of art, and very little grace

there is great energy; they are fi Gallie strength and force. literary value and historical interest | Process d son Execution. ideas of the times in which they were He also brought out others over which written are faithfully reproduced, and there was much controversy.

the vicinity.

Chantada, a tn. of North-western Geste du Roi. It described the life of Spain in the prov. of Lugo. It is the mother of Charlemagne, as well as situated on the L.b. of the Rio de that of the emperor himself. Another Chantada, and on the main road from interesting cycle is that of Lo Geste Orerse to Lugo. There is considerable trade in hemp, flax, grain, and dairy-produce. Pop. 15,500.

Chantelauze, François Régis (1821-88), a French historian, born at Montbrison, Loire. He brought out many

> (1876) " warl: son

٠., All these are very considerable; the customs and | books the French Academy crowned.

written are latinitily reproduced, and there was much controversy. their popularity spread into England. Chantenay, a tn. of France in the Italy. Spain, and even Iceland. dept. of Loire-Inférieure, situated on Very many of the surviving poems were never published. Chant, the term applied to the short tunes to which the psaims and responses are sung in the English and responses are sung in the English and Chanterelle, Chantarelle, and Chan-Roman churches. There are two sorts, etc. Pop. 16,000 Chanterelle, Chantarelle, and chanterelle, chantarelle, chantarelle, and chanterelle, chantarelle, chantare

mushroom which resembles Agaricus, (cantare, to sing), a term applied to a In colour it is a bright orange, the cap is irregularly shaped, the gills are thick and wrinkled, and the whole plant bas a pleasant fruity smell.

Chantilly, a tn. in the dept. of Oise, France, about 25 m. N.E. of Paris. It has two châteaux. One, built 1527-31, was presented with its art collection to the Institut de France by the Due The other is a perfect specimen of French Ronaissance architecture. The town has a famous racecourse, where three meetings are

held annually. Pop. (1901) 4463. Chantrey, Sir Francis Legatt (1781-1842), an English sculptor, horn at Norton, Derbyshire. He began life in humble eircumstances, his fatber being a carpenter. He was left an orphan at the age of twelve, but was befriended by a wealthy lady in the neighbourhood, and in 1797 was apprenticed to a wood carver, framemaker, and gilder in Sheffield. Here he began modelling in elay and drawing peneil sketches, which attracted the attention of John Raphael Smith, the mezzotint engraver, who gave him some lessons in portrait painting. In 1803 he came to London and studied at the Royal Academy, where his first work, a 'Portrait of D. Wale. Esq., was exhibited in 1804. His work was well received, so that in 1809 he received a commission to execute colossal busts of British admirals—Howe, Vincent, Duncan, and Nelson—for the Greenwich Hospital. In 1808 he received an order for a statue of George III. to order for a statue of George III. to be placed in the Guildhall. His reputation for portraiture was estab-lished, and he executed busts or statues of most of the prominent men of his time. His husts include those of Sir Walter Scott (two. 1820 and 1828), James Watt (Westminster 1828), James Watt (Westminster Abbey), and Wordsworth; his chief statues are Sir Joseph Banks (1827), Washington (in Boston). the Duke of Wellington (in Hoston), the Duse of Wellington (in Front of the Royal Exchange, London), George IV., Caning, and Roseoe (Glasgow). His state-group of the 'Sleeping Children' in Liehfield Cathedral is well known. C. bequeathed his fortune to the Royal Academy, to be partly expended on the purchase of works the reign of George IV., and applied of art excepted in Great Britain. In to small pamphlets which at that of art executed in Great Britain. 1903 complaints with regard to the Chantrey Bequest were raised on the ground that the committee was too exclusive in its choice of artists. In 1904 the House of Lords appointed a committee to inquire into the matter. Consult John Holland, Memorials of Chantrey, 1851: G. Jones, Sir Francis Chantrey; and M'Coll. Administration of the Chantrey Bequest, 1904.

Chantry (O. Fr. chanderie, Lat.

chanel or altar where masses may be sung for the repose of a soul. chapels are often built off the aisle or nave of a church, and have the tomb of the founder placed in the centre. The word C. is also applied to the endowment for the upkeep of such a chapel.

Chanute, a city of Kansas, United States, in the Neosho co. It is in the Kansas Oklaboma oil and gas field, is the centre of a splendid farming region, and much dairy produce is obtained. C. was incorporated as a eity in 1873. In 1899 natural gas and

oil were discovered. Pop. 10,000. Chanzy, Antoine Eugène Alfred (1823-83), a French general, born at Nouart, Ardennes. He was present at Magenta and Solfarino in 1859. He bad about thirty years' service in Africa, on his return from which he commanded the second army of the Loire in the Franco-Prussian War in 1870. He was ambassador to Russia. 1879-81, and was nominated president of the republic in 1879.

Chao-ching-fu, a city of China, in wang tung. It is situated on the Kwang tung. West River.

Chao-chou-fu, or Chao-tchoo-fou, a city of China, in the prov. of Quang-Tong, situated on the river Han-Kiang, near where it flows into the China Sea.

Chaones, a people who lived in Epirus in the N. of Greece; thus Epirus ls occasionally ealled Chaonia. Chaos, a term given by the Greeks

to the space and void which existed Literally means 'a yawning.' C. is said to be the mother said to be the mother of Erebus and

Nox (Darkness and Night). Chapala, a lake in Mexico, with an area of 1300 sq. m., situated between Guadalajara and Michoacan. There are numerous islands, and the Rio Grande flows through it.

Chaparral, a tn. in Colombia, 115 m. from Bogota. It is rich in copper,

Chapbooks, or Broadsides, a term believed to have come into use in the reign of George IV., and applied to small pamphlets which at that time years the chief form of literature. time were the chief form of literature that the poor people enjoyed, not only in England but on the continent. In Germany they were called Volks-bucher, and in France Bibliothèque Grisc. The beginning of the 17th century is said to be about the time of their advent into England. of these books were devoted to the interpretation of dreams, palmistry, astrology, etc., while others were such tales as Jock the Giont Killer, French poets, and every one thought Potient Grizel, Reynord the Fox, etc. In Scotland a number of more or less religious books were in vogue, especially the 'prophecies' of Peden. Then humorous books were always favourites, among them heing The Merry Exploits of George Buchanon. Thackeray describes the Irish C. in his Irish Sketch Book, ehaps. xv., xvi. Chapel, an association of com-

Chapel

positors in a printing house, handed together into a sort of club. The president is called the 'father,' and is elected by the other compositors.

Chapel (O. Fr. chapele, from Lat. capello, a sanetuary), a huilding that is used for worship. Cs. were attached to cathedrals, churches, and abheys as early as the 10th century, and were dedicated to some saint. An altar and relies of the saint were placed in the C., so that private devotions or special services might be held there. central C. was often called the lady C. because it was dedicated to the Virgin Mary. Cs. might also he creeted to hold the tombs of private individuals, as Henry V11's C., added in 1502-20 to the E. end of Westminster Abhey. to the E. end of Westminster Abhey. Cs. were also huilt by private families on their own estate, and by colleges and guilds. Modern colleges and schools frequently have Cs., in imitation of those at Oxford and Cambridge. The term C. is also applied to places of worship huilt by Nonconformists, as distinct from those consecrated according to the laws of the Church of England. Chapel Royal, of England, the date

of whose foundation is not certain. It is known, however, that it was in existence at the time of Edward IV. It is composed of a dean, sub-dean, and fifty-eight clergymen, ten of whom are called 'priests in ordinary.' Its purpose was to attend on the sovercign, wherever he or she might he. In former years it existed in the chapel at Whitehall, hut now it never holds a service anywhere but in the chapel at St. James's Palace, London.

The C. R. of Scotland was founded by Alexander I. at Stirling Castle, hut Mary had it removed to Holy-rood. The chapel now consists of the dean, appointed by the sovereign, and six chaplains in ordinary who attend on the king when he is at Balmoral Castle. Any money that helongs to the chapel is given for salaries for chairs of divinity in con-nection with a university. The name used to he given to Holyrood Abbey Church, which is now in ruins

Chapelain, Jean (1595-1674), a French literary critic who first came into notice through his preface to Adone of Marino in the year 1623. Ho was considered quite the chief of

that his Puselle, which was one of the pseudo-epics of that time, would equal the *Iliad* or *Encid*. The popularity of this work, however, did not endure, and after the praise he-stowed on the issue of the first twelve cantos in 1656 had subsided, his fame gradually dwindled, and he was laughed at by the younger poets such as Boileau. Under the patronage of Richelieu, however, he was prominent in founding the Academy, and it is to him that the rules of the 'three unities' were formally established in French drama. The last twelve cantos of Pucelle were not published until 1882. His most important work is Sentiments de l'Académie sur le Cid, which he brought out in 1637. He is also said to have translated Guzman d'Alforoche in 1631.

Chapel-en-le-Frith, a tn. and parish

in High Peak division of Derbyshire, England, 4½ m. N. of Buxton. Pop. (1911) 5140: par. 16,547. Chapelhall, a vil. in Lanarkshire, Scotland, 2½ m. S.E. of Airdrie. There are collieries and ironworks in the

neighhourhood. Pop. 2500.
Chapelle St. Denis, anct. com. of Seine, France. It was united to Paris by an imperial decree of 1860, and now forms part of the 18th arron.

Chapeltown, an eccles, parish in the West Riding of Yorkshire, England, 6 m. N. of Sheffield. There are collieries and iron foundries, and hricks, tiles, etc., are manufactured. Pop. (1911) 2169.

Chaperon has a variety of meanings: (1) It is the name often given to the plumes seen on horses' heads in funeral or other processions. Also applied to the cap which is worn by members of the English Order of the Garter. (3) It is the name given to the academic hood worn by all people who have taken a degree of any kind, such as Doctor of Music, Bachelor of Arts, etc. (4) Most commonly known as the term applied to a married lady who is acting as guardian ' to an unmarried woman when appearing in public. This custom arose in the reign of Queen Prior to this no unmarried girl or woman could appear in public except under the guardianship of a near relation.

Chaplain, a term employed for a clergyman serving in some official capacity. Thus, in civil life, there are Cs. of the Chapel Royal, of prisons and workhouses, and, in an almost obsolete sense, of the households of nohlemen. But the word is most commonly used in connection with the army and navy. In the British army there are now one hundred Cs., i.e. clergymen specially commissioned

for military service, and having the status of a non-combatant officer. The service is under the military department of the War Office, and is soverned by a chaplain-general, with the rank of a major-general, who has jurisdiction over the Anglican Cs., who form the majority. Roman Catholic and Preshyterian Cs., who are commissioned for regiments where most of the men are of one of these faiths, are under the anthority of the secretary of the War Office. Cs. are of four ranks, corresponding to colonels. lieutenant-colonels, majors, and captains. Their duties are to accompany the troops on active service, and in times of peace to hold divine service, officiate at funerals, etc., visit the men, and generally act as parish priests to the military stations to which they are allotted. There is a special clerical service for India. Every large ship has an Anglican C., who must not he over thirty-five years of age on entering the service, and who retires at sixty. The pay varies from \$129 to \$401, and those Cs. who also act as naval instructors receive act as naval instructors receive special allowances. The head of the service, the C. of the fleet, has an income of £1000, the same as that of the chaplain general. Naval Cs. are members of £1000. members of the gun-room or ward-room mess, and their duties include the holding of services on hoard, visitation of the sick, and assistance in the maintenance of moral disei-

to its earlier dignity the fallen art of Here he settled at once to a literary engraving on medals. Thus he executed a series for various societies and functions, including one for the Universal Exhibition of 1867, another in commemoration of the resistance of Paris, a third for the Salons, and a fourth to be given as a recognition for acts of heroism. Among his medal-lion-portraits are those of Schnetz, Meissonier, Renan, and Gambetta. Chaplin, Chaple (2022)

managed to catch the piquant charm relyming line of Drayton's Polyofof Parisian women in bis pictures. In bion. It has been warmly praised by 1800 he painted the apartments of Dryden, Johnson, Pope, and Cole-the Empress Eugénie at the Lonvre, ridge. His plays include both the Empress Eugenie at the Lonvre, ridge. His plays include both the Empress Eugenie at the Lonvre, ridge. His plays include both and afterwards the bathroom at the Etysée. His best works are: 'Les among the former are Bussy d'America, 'The Bath,' and 'Rising in 1608; Charles, Duke of Biron, 1609; Charles, Duke of Biron, 1609; Charles, Duke of Biron, 1609; Entengraver, and made engravings of many of Decamps and Watteau's phonsus, Emperor of Germany, and pictures, and also of some of his own.

Chaplin, Rt. Hon. Henry (b. 1841), an English statesman. He is the second son of the Rev. Henry C. of Blankney, Lincolnshire, and was educated at Harrow and Christ Church, Oxford. He first went into parliament in 1865 when he stood as Conservative member for Mid-Lin-coin-hire. There he remained till 1906, when he was defeated, but he re-entered again in 1907 in a hy-election, when he became member for Wimbledon. He is a well-known figure on the race-course, and his horse Hermit won the Derby in a snowstorm in 1867. He takes a great interest in agricultural questions, is a typical specimen of an 'English country gentleman.' In 1889 he became president of the new Board of Agriculture with a seat in the cahinet, and he kept this position till 1892. He was always an advocate of protection, and when Mr. Chamberlain began his Tariff Reform campaign, C. was one of its most ardent supporters. From 1895-1900 he was president of the Local Government Board, and was responsible for the Agricultural Rating Act. He married a daughter of the third Duke of Sutherland in 1876, who died in 1881.

Chapman, a small itinerant trades In the 18th century he sold chaphooks, needles, laces, linen, and all sorts of things, and honght up old brass, old elothes, and sometimes human hair.

Chapman, George (1559-1634), English dramatic poet and translator of pline among the men.

Chaplain, Jules-Clement (b. 1839), Homer. Prohably hom in Kent.

Chaplain, Jules-Clement (b. 1839), educated at Trinity College, Oxford, a sculptor of medals and busts, educated at Trinity College, Oxford, deserves honour because he restored which he left for London about 1576. career, was patronised by Sir Thomas Walsingbam, Henry, Prince of Wales, and Carr, Earl of Somesset, and be-came friendly with Shakespeare. Spenser, Daniel, Marlow, Jonson, and Inigo Jones, the architect, who after his death designed a monument for bim in St. Giles-in-the-Fields. tz, translation of Homer, the earliest in English, appeared in two parts, the alliad in 1598 and the Odyssey in Meissonier, Renan, and Gambetta.
Chaplin, Charles (1825–91), a Hiad in 1598 and the Cayssey in French painter, born at Andelys (Eure) of English parents. He soon faithful to the original we possess in found that his real vocation lay in verse, but he loses much of the fire and spirit of Homer by reason of bis mainting portraits of women in the water which is the fourteen-syllabled Wattean and Bonchers style. He other translations and various poetical | 1641 and at Tenby in 1642 works, including a masque performed hy the societies of Lincoln's Inn and the Middle Temple to celebrate the Princess Elizabeth in 1613.

Chapman, John (1801-54), an English political writer, horn at Looghborough in Leicestershire. He failed in business, which was that of a lace! manufacturer, in 1834, and went to London and hecame editor of the Mechanics' Magazine. He invented improvements in the 'four-wheeler,' which eventually led to the hansom cab. He wrote The Cotton and Com-

merce of India in 1851.

Chapman, Walter, see CHEPMAN. Chapone, Hester, née Mulso (1727-1801), an English essay writer, and an ardent admirer of Richardson the novelist. She wrote Letters on the Improvement of the Mind in 1772, and this was very popular in girls' educational circles. This essay was very often found bound up with Dr. Gregory's Adrice to a Daughter. Her Dr. complete writings may he found in vol. zviii. of Chalmers's Brilish vol. xviii. of C Essayists, 1856-57.

Chappe, Claude (1763-1805), French mechanician, born at Brulon, Nor-mandy, the nephew of Abbé Chappe d'Anteroche, the astronomer. He was the inventor of a form of telegraph, on the same lines as that invented by Or. Hook and modified by Amontons, which he presented to the National Assembly in 1792. It was successfully tried between Paris and Lille, and

soon came into general use.

Chappe d'Auteroche, Abbé Jean (1722-69), a French astronomer, horn at Mauriac. In 1760 he was sent hy the Academy of Sciences to Tobolsk to witness the transit of a senator. Venus of 1761, and in 1769 to California to observe another transit.

being absolutely dry. Grease should council of the bisl he well rubbed in to keep the skin used in both the Ar elastic and soft, but if some of the catholic churches cracks are very troublesome, then Chapter bouse, cracks are very troublesome, then | Chapter-bouse, the building in flexile collodion may be used to cover which the chapter (q.r.) of canons of

Eastward Hoe, written in conjunc- Duhlin, from 1637-1640, and then tion with Jonson and Marston, was bishop of Cork and Ross in 1638. the inspiration of Hogarth's Idle After Strafford's fall, he was put into Apprentice. He also published several prison for a short time in Dublin in

Chappell, William (1809-88). an English musical antiquary. He managed his father's husiness (a firm of betrotbal of the Palsgrave and the piano-makers). He published A Collection of National English Airs, con-sisting of Song, Ballad, and Dance Tunes, in two volumes, between 1838-40. which he afterwards extended and reissued under the name of Popular Music of the Olden Time. be founded the Musical Antiquarian Society, as well as the Percy Society. For this latter society he edited Dowland's songs, and assisted in the preparation of the Percy Folio in 1868. In 1869 he produced in three volumes his notes on the Roxburghe Bollads, which contain a vast amount of archeological information. He awrote a History of Music in 1874. He also

Chapra, or Chupra, chief tn. in Saran dist. in Bengal, India, 32 m. from Patna. It has lost its commer-

from Patna. It has lost its commer-cial importance, but still has many banking houses. Pop. 46,000. Chaptal, Jean Antoine, Count de Chanteloup (1756-1832), a French chemist and statesman. Born at Nogaret. Lozère; graduated in medi-cine at Montpellier in 1777, and settled to selectific study in Paris. In settled to scientific study in Paris. In 1781 he became professor of chemis-try at Montpellier, and made many discoveries of considerable com-mercial value. Though in the main a supporter of the Revolution, he was imprisoned by the popular party in 1793, but was soon released to become director of the salpetre works at Grenelle. In 1796 he became a member of the Institute, in 1800 a councillor of state, in 1801 Minister of the Interior, and in 1805 grand officer of the Legion of Honour, and Author of several works on chemistry.

Chapter, originally an assembly of Chapped Hands, the cracking of the monks or canons, now the body of skin on the backs of the handsthrough ecclesiastics, known as canons, at-cold weather. This bappens in a tached to a cathedral or collegiate worse degree if the hands are exposed church. They are presided over by a to cold air after washing and then not dean, and are considered as the being absolutely dry. Grease should council of the bishop. The term is used in both the Anglican and Roman

the cracks, and soap applied as seldom a monastic establishment, cathedral, as possible. or collegiate church, meets for the Cbappell, William (1582-1649), Bis-discussion of its affairs. They are bop of Cork and Ross. He was born often elaborately designed and ornabop of Cork and Ross. He was ourn often chaptered the spirit and orna-at Laxton in Nottinghamshire. Arch-imented, and usually polygonal, or bishop Laod favoured him, and octagonal, as at Lichfield and York, through his influence be was made dean of Cashel in 1633. Afterwards usually square, as at Canterbury, bot be was provost of Trinity College. Westminster has an octagonal C. minster. At Ripon the usual central the syllable or word in question. Cs. shaft is replaced by two central are usually extemporised, half the pillars supporting the eciling, and company retiring and concocting there is an apsidal end. In position, scenes which they return and act the C. usually lies to the W. of which it opens either directly or by acting may also be bought. In dumb a passage. Crypts are occasionally

found beneath the floor. Chapu, Henri Michel Antoine (1833-91), a celebrated French sculptor. He was born at Mée (Scinc-et-Marne), and was a pupil of both Pradier and Duret. He became a member of the Ecole des Beaux Arts in Paris in the year 1849 and won the Grand Prix, and in 1855 the medal. His first work shown in the Salon was ' Mercury inventing the Caduceus,' and it is now in the Luxembourg at Paris. His strong point in sculpture was his extremely able portrayai of tenderness and charm in woman. His most typical pieces of work are 'Princess Helenc at the Tomb of the Duc d'Orléans, now at Dreux; and 'Youth' in memory of Henri Regnault. His 'Joan of Arc at Domrémy' in the Luxembourg is not his best work.

Chapultepec, a tn. of Mexico, about 11 m. from the metropolis. It is strongly fortlifed, and possesses a castle which is situated upon a rock The town was almost 200 ft. high. taken by General Scott in 1847.

Char, see CHARR.

Char, or Charra, a tn. of E. Africa. It is situated on the R. Tana, 4 m.

from its mouth.

Char-à-banc, a large four-wheeled vebicle in the form of a wagonette with benched seats from side to side and facing driver. There is an alleyway in the middle. Drawn by two or four horses according to size. Used principally for picnic parties.

Characeæ, an order of the green Algæ of which the species inhabit fresb and brackish water of pools and slow streams. They emit a nauscous offensive odour, and near Rome they are pestilential. They are interesting on account of the facility with which they exhibit the circulation of their fluids.

Characteristic (of a logarithm), see

LOGARITHMS.

Charade, a kind of riddle, consisting of the sundivision of a complete word, which forms the answer, into its component syllables or letters. A certain packing roun amount of information is given of refrigerators. each syllable or letter, and also of the rc-united whole, which then has to be produced by dry distillation of bones guessed. Cs. may be either written and ivory. It contains mainly calcium

and Worcester a circular. The C. at or acted. In the latter, which form Lincoln is a decagon. York C. is a favourite drawing-room amuseremarkable for still preserving the beautiful original stained-glass win-syllable of the word, and one for the dows, while the original frescoes are word itself—are arranged to introstill to be seen on the walls at Westthe C. usually lies to the W. of to the remaining half, who attempt the transcpts of the church, from to guess the word. Written Cs. for

family of cosnging to the

group Limicolæ of the Charadriiformes. There are about 120 species which include the various plovers,

the sandpiper, and the snipes. Charadrifformes, plover-like hirds, form the eleventh trihe in Gadow's classification, and comprise several hundreds of species of various habits. The group is subdivided into the Limicola, birds which wado and fly. e.g. the oyster-catcher; the Lari, which swim and fly, e.g. the gull; the Pterocles, which are desert birds, e.g. sand-grouse: the Columbæ, good flyers, e.g. dove; and sometimes a fifth group is added, Alex, marine birds, e.g. tho auk.

Chargeas, a genus of moths of the owlet-moth family or Noctuidee, is represented in Britain by several species. The larvæ fccd upon roots, and pupate under ground. Ch. graminis is common in Sweden, where the caterpillar frequently proves destructive to the pastures.

Charala, a tn. of Colombia, in the dept. of Santander, 120 m. N.E. of Bogota. Pop. 11,000.

Charcoal, a blackish residue consisting of impure carhon, obtained by removing the volatile constituents of animal and vegetable substances. It is a porous solid, burning without flame or smoke, obtained by the im-perfect combustion of organic unatter. Various different kinds are produced from wood, sugar, bone, and coal (giving coke and gas-carbon). Woodcharcoal results from strongly heating wood. If for fucl, it is best prepared by partial combustion of wood in heaps; for gunpowder the wood is charred in externally-heated cylinders to avoid the introduction of grit. Brown C., used in preparing 'eocoa powder, is prepared at a lower tem-perature. Wood-charcoal is used as a fuel, a polisb. a filter, and an absor-bent of gases and aqueous vapours; also, as a non-conductor of heat, for packing round cold storage-rooms or

Animal-charcoal, or bono black, is

and magnesium phosphates, and is often manufactured from residues obtained in glue and gelatin indus-Its decolourising power was applied in 1812 to the clarification of syrups obtained in sugar-refining, but other reagents have now replaced it for this purpose. It is also used as a deodorant and for erayons.

Charcot, Jean Baptiste Etienne Auguste, a living French Antaretic explorer. He commanded the French Antarctic Expedition of 1903-5 and also that of 1908-10. The latter expedition sailed on August 1908 from Havre in a vessel called the Pourquoi-pas? It was one of the hest fittedout and up-to-date vessels that ever put out on such a quest. The expedition resulted in much very valuable information, as the whole affair had been carried through most scientifically. A new coast-line in 70° S. was mapped, as also was Grabam Land. Adejaide Island, Alexander Land, and Deception Isle. Much work was done with regard to the sea, such as soundings, surface and deep-sea temperaings, surface and deep-sea chapteratures, deep-sea dredging and fishing with tow and vertical nets. The expedition eame back to Rouen in June 1910. Dr. Chareot published an account of his explorations in Le Français au Pole Sud in 1905, and Le Pourquoi-Pas? dans l'Anlarctic in 1910.

in 1910.

Charcot, Jean Martin (1825-93), a French physician who was born in Paris on November 29. He graduated as M.D. of Paris University in 1853, and three years later he became physician of the Central Hospital Bureau. In 1860 he was appointed professor of pathological anatomy in the medical world of Paris, and in 1862 he began his connection with the Salpétrière which lasted all his life. He was elected to the Academy of Medicino in 1873, and in 1883 was made a member of the in 1883 was made a member of the institute. He was a good linguist and had an excellent knowledge of the literature of other countries as well as his own. He was a great clinical observer and pathologist. He spent much of his time in studying obscure morbid conditions such as hysteria in relation to hypnotism. His work at the Salpétrière was chiefly in the study of nervous diseases, but besides his labours in the field of nerves he also published many able works on the subject of liver and kidney His complete diseases, gout, etc. His complete works came out in nine volumes bea boliday.

Chard, a municipal bor, and mrkt. tn. of Somersetshire, England, situated within a mile of the Devonshire border, on high ground, between the Bristol and English Channels. It is of great historic interest, being the seene of a victory gained by the parliamentary forces during the Civil War. Judge Jeffrey hold here in 1681 one of his 'bloody assizes.' are manufs, of linen collars, lace, and iron and brassgoods. Pop. (1911) 4568.

Chard, John Rouse Merriolt (1847-97), an English soldier who defended Rorke's Drift successfully with Licu-Bromhead and 140 tenant against 3000 Zulus. He thus saved Helpmakaar. Greytown and made sure the retreat of Chelmsford's forces. This was fought on the night of the Isandhlwana disaster, January

22, 1879. Chardin, Jean Baptiste Simeon (1699-1779), a French painter, born in Paris. He was a pupil of Coypel, whom ho copied as regards detail in nature. His early work was pictures of still life, and they were often thought to be Flemish work. Ho was the first French artist to depiet middle-class life. This he did with great truth and also refinement, and were in contra-distinction to the work of contemporaries who always depicted the fêtes galantes of their time. The majority of his pietures are in the Louvre at Paris, but the National Gallery has one exemple and Dubin has his 'Card Tricks.'

has his 'Card Tricks.'

Chardin, Sir John (1643-1713), an Eastern traveller, born in Paris, the son of a jeweller. During 1664-70 he visited India and Persia, spending some years at Ispahan, where he acquired much useful knowledge, and was employed as a royal agent for the purchase of jewels. After revisiting Paris, he returned to Persia in 1671, remaining there till 1677. In 1681 he settled in London, where he was knighted by Charles II., elected a fellow of the Royal Society, and employed on diplomatic missions. employed on diplomatic missions. His Travels in Persia and the East Indies (3 vols.) appeared 1686-1711.

Charente, a dept. of France, formed ont of the old prov. of Angoumois, with portions of Saintonge, Poitou, Marche, Limousin, and Périgord. Area 2306 m., divided into the five arrondissements of Angoulème, Barbezieux, Cognae, Confolens, and Ruffee. Watered by the Charente, Vienne, and Dronne, the last forming works came out in nine volumes between 1886-90. He was extraordinarily successful as a teacher, and his actic in their work. He died very action as to the surface is undulating, with a light warm soil resting upon many followers were most enthusiastic in their work. He died very action district in the N.E. is shilly, with suddenly at Morvan while away on numerous lakes, and has a clay soil of the surface in the surface ind on a granite or schist foundation.

Granite, limestone, iron, and gypsum the Vendean rebellion against the

Charente, River, a river of France, rising in Hante-Vienne, 14 m. N.W. of Chalus, and flowing W. through

-Inférienre into the island of

a. Tributaries. Bontonne on the right, and Tronve

and Né on the left bank. Charente-Inférieure, maritime dept. 1 of S.W. France, formed ont of most of the old provs. of Aunis, and parts of Saintonge, Poiton, and Angoumis, and including the islands of Ré and Oléron. Area 2790 m., divided into the arrondissements of La Rochelle, St. Jean de Angely, Jouzac. Jouzac, Marennes, Rochefort-sur-Mer, and Saintes. Watered by the Charente, Bontonne, Sevre Niortaise, Sendre, and Girondc. Surface level. with very fertile soil. Grain, vines, satisfactory, though jovite and maxipotatoes, pulse, hemp, flax, hects, mite are used for armour-piercing and fruit are grown, and much live shells.

stock reared. The chief industries are Charge, in law, in a wide sense agriculture, the distillation of Cognac chard and oyster fisheries. La Rochelle. Pop. 456,200. Capital.

361 deteated the democratic party in a state of the democratic party at Corcyra; in 358 compelled the holds his credentials. He may either execution of the Convention of act as a representative at a minor Athenodorus in Thrace, and in 357 court or be empowered to take took over the command of the Social the place of an amhassador in his War. His successes seem to have absence, heen largely due to party influence Charg and corruption.

Chares of Lindus, in Rhodes, Greek sculptor of about the 4th century B.C., a pupil of Lysippus. He is the traditional anthor of the Colossus at South American ports. The head thodes, one of the Seven Wonders of the World. This, which was a bronze in 1872. statue of Apollo, was destroyed by earthquake in 224 B.C.

Chares of Mitylene, master of cere-monies at the court of Alexander the He appears to have held Great. several military commands, but in this connection there is confusion with Chares the Athenian general. Small portions of his hook of an ecdotes abont Alexander are still extant.
Charette de la Contrie. François

are found. There is extensive forest french Revolution. He was born at land, and grain, potatoes, vines, Couffé, near Ondon (Loire-Inférieure). heets, hemp, flax, and truffles are He was made chief of the Lower Vengrown. Chief manufactures: paper, dée in 1793, and as he had many felt, and woollen and cotton goods, successful encounters with the revocap. Angonlème. Pop. ahout 360,300. Juitonists he was ordered to assist the lutionists he was ordered to assist the Royalist army against Nantes (June 1793). C. was then unsuccessful, but he began a harassing guerilla warfare. An armistice was made between C. and the Convention early in 1795. but it did not last long. After the defeat at Quiheron (June 27, 1795) Hoche pursued him relentlessly, and defeated him again and again. last Hoche took him prisoner and had him executed on March 26, 1796.

Charge, the gunpowder or other explosive with which a gun, torpedo, or projectile is loaded. A gun is designed to fire with the greatest speed when loaded with a 'full' or 'service C. 'Rednced' Cs. are used in practice and high-angle firing. Bursting Cs. are used for projectiles, fine black gunpowder heing the most generally

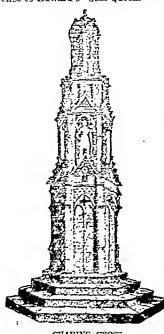
Charge, in law, in a wide sense denotes a duty or obligation imposed brandy, the working of the salt upon some person in a will, or deed, marshes on the coast, and the pil or contract, or in some transaction collateral thereto. More strictly C. denotes a mortgage, lien, hypotheca-Charer, an Athenian general of 4th century R. J. 1367 he was sont

century B.C. In 367 he was sent agent, ranking next below a resident to assist the Philasians against the minister, in connection with the Arzives, Arcadians, and Thebans; in Ministers for Foreign Affairs, from 361 defeated the democratic party the head of which department he at Coregra; in 358 compelled the holds his credentials. He may either

Chargeurs Réunis, a French line of steamships, with a fleet of twenty-five ships (1910) having a gross tonnage of 144,141 tons, running between Havre

Charing Cross, a dist. of London, England, at the W. end of the Strand and on the S.E. side of Trafalgar Square, within the city of Westminster. It takes its name from the stone cross which was erected by Edward I. to mark the last resting-place of the coffin of his queen. Eleanor, hefore her interment in Westminster Abbey. A fine modern cross has been erected in the courtyard of the Sonth-Eastern Athanase (1763-96), was the leader of and Chatham Railway Station. The

doubtful, although popular tradition and from internal evidence he is ence to Edward's ' dear queen.



CHARING CROSS

Chariot, a kind of two-wheeled carriage, used both in peace and war in shape, and, unlike most Cs., closed behind.

origin of the name, 'Charing,' is His works are quoted in the Digest, derived it from 'chere reine' in refer- supposed to be the last jurist of the classical period of Roman juris-prudence. The three books of which portions remain are Liber singularis Testibus; Liber singularis de Muneribus civilibus : and Liber singu-

laris Officio Prafetti pratorio. Charité, La, a tr. of Cosne, Nièvre, France, on P. Loire, 14 m. N.W. of Nevers. Has trade in grain, wood, iron, and wool, and manufactures ironware, hosiery, hoots and shoes, soap, etc. Pop. 5000.

Charites (Lat. name Gralia), the Graces, were the daughters of Jupiter and the goddesses of beauty and grace. They were three in num-ber. Aglaia (Brilliance). Euphrosyne (Mirth), and Thalir (Luxury), and were generally in Aphrodite. They attendance on presided daneing, physical exercises. festivals, and were the patrons of poetry and art. through which they were closely allied to the Muses. They are generally represented as young, beautiful, nude girls, holding each

other by the hand. Charities (Charitable Trusts Uses, Superstitious Uses). The term 'charity' popularly connotes the relief of poverty. No such restricted meaning attaches to the term C. in law, indeed one judicial decision defines 'charity 'as a gift to a general public purpose, which extends as well to the rich as to the poor, but although not really susceptible of any precise definition, a sufficiently accurate conception of its signification is to be inferred from the purposes which the law has interpreted as 'charitable' in the construction of testamentary bequests to charity, or for charitable purposes. In law C. and charitable uses or trusts are interchangeable in ancient times by the Eastern nations, Egyptians, Assyrians, Baby-lonians, Greeks, Romans, ancient able depends upon a long line of Britons, etc. Various forms of Cs. for different purposes are depicted in monuments, etc. The most familiar type is the war C., usually drawn by two horses. That of the Homeric two horses. That of the Homeric work, the Roman pattern is rather heavier, and that of Eastern nations still more solid. Some Eastern peoples had scythes attached to the wheel-axles of war-Cs. The quadriga, or schools of learning and free axles of war-Cs. The quadriga, or schools of universities; the repair of bridges, ports, havens, causeways, the Roman 'currus triumphalis,' on the relief or maintenance of which generals made triumphant of orphans, the relief or maintenance of the decision of the question nations of is not charitable depends upon a long line of indical precedents more or less remotely based upon the question of a varied list of C. in the preamble of a statute passed in the forty-third year. Of the relief of area dimposition of a varied list of C. in the preamble of a statute passed in the forty-third year. Of the relief of area dimposition of a varied list of C. in the preamble of a statute passed in the forty-third year. Of the relief of area dimposition of a varied list of C. in the preamble of a statute passed upon the question and varied list of C. in the preamble of a statute passed upon the cumeration of a varied list of C. in the preamble of a statute passed upon the cumeration of a statute passed upon the cumeration of a varied list of C. in the preamble of a statute passed upon the cumeration of a varied list of C. in the preamble of a statute passed upon the cumeration of a varied list of C. in the preamble of a varied list of C. in the preamble of a varied list of C. in the preamble of a varied list of C. in the preamble of a varied list of C. in the preamble of a varied list of C. in the preamble of a varied list of C. in the preamble of a varied list of C. in the preamble of in ancient times by the Eastern terms and the decision of the question which generals made triumphant orphans; the relief or maintenance of entries into Rome. This was round houses of correction: marriages of poor maids: supportation aid and help of young tradesmen, handicrafts-Charisius, Aurelius Arcadius. Rom. men and persons decayed; the relief jurist of about the 4th century A.D. or redemption of prisoners or captives

and the aid or easo of any poor inhabitants concerning payment of taxes. A number of these objects savour of medieval ideas, and aparticle with the enumeration has never been held to be exhaustive, the rites of a religion not tolerated by the large reserves the savour of the rites of a religion not tolerated by the large reserves the large reserves the large reserves the rites of a religion not tolerated by the large reserves the rites of a religion not tolerated by it is not easy to discern any common defined principle underlying them. In the eye of the law only those trusts are charitable whose object is at least Intended to be for the public benefit whether, if earried out, it would actually benefit the community or not, e.g. a trust of funds to further the movement for the suppression of vivisection is a valid charitable trust. although both the court and many lay minds might be of the opinion tbat such suppression was contrary to public interests. A generally accepted modern definition of C. or charitable trusts is that of Lord Macnaghten in a decision given in 1891, to the effect that such trusts are 'trusts for the relief of poverty, trusts for the advancement of education, trusts for the advancement of religion, and trusts for other purposes beneficial to the community, not falling under any of the preceding heads. A trust for the bonefit of particular individuals named by the donor is not a charitable trust, and would therefore fall if and in so far as it contravened the rule against perpetuities (q.v.), a trust or use for charitable purposes being the only class of gift which by the English law is permitted to infringe that rule—the purpose of which is to rond tho r

a trust for

be no great degree of certainty as to the objects intended to be benefited by a charitable trust, provided only the donor evinces a general intention of charity. Hence in a case where a testator left a legacy in trust for charitable or phllanthropic purposes' the court decided that as not

tue particular ebaritable purpose expressed by him cannot be carried out e.g. where the institution praposed to be benefited is not yet in existence) will not involve the complete failure of tha trust, for the court will remedy the difficulty by carrying out the purpose curpres, i.e. as nearly as possible to effectuate the donar's intention. This is done by inviting the Charity Commissioners to submit a seleme for the approach of the court.

the law. The effect of the Toleration Act combined with present day public opinion, maka it impossible to say that any form of religion is not tolerated by the law, and the meaning of the term superstitious usa can seemingly only be inferred from the different purposes which have been declared superstitious, e.g. gifts for saying masses for the dead, or for maintaining a lamp in a church. The various Acts of parliament removing the religious disabilities of Roman Catholics and Jows, Unitarians and other dissenters, havo resulted in gifts being 'charitablo' which would otherwise have been deemed superstitious: but these relieving Acts will not operate to render valid any trust which is superstitious in the old sense without being charitable. The Scottish Scottish

against publie 1 between charitable trusts or any other The law in Ireland, public trust. which is to be found in the Charitable Donations and Bequests (Ireland) Acts, 1844, 1867, and 1871, allows of bequests for saying masses either generally, or to commemorate the named dead. As to the statutory inability of C. to hold lands, and the exceptions thereto by reason of Mortmain the Acts. seeMORTMAIN.

Chariton, Greek prose writer of probably about the 5th century A.D. A native of Aphrodisias in Caria. His one extant work, The Loves of Charcas and Callirrhoe, is an erotic romance, written in a pleasant and simple style. The best text, with Latin version and a commentary, is that of D'Orville (1750).

Charity Commissioners. The C. C. wore appointed by the Charitable Trusts Act, 1853, for the better administration of charitable trusts (see CHARITIES). For the purposes of the C. C. a hat

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or Wales poses, subject to express exemptions in the Charitable Trusts Amendment Act. 1855. These exemptions com-prise the universities of Oxford, Cambridge, London, and Durham, Eton and Winchester Colleges, any building registered as a place of meeting for religious worship, the British Commissioners to submit a scheme
for the approval of tha court. According to various legal daeisions, founded on the analogy of alienations in mortsociety, any friendly or benefit society, and generally, any society

for religious or charitable purposes! wholly maintained by voluntary contributions. Exemptions under later Acts include parochial and prison charities, charity allotments, and the property of dissolved municipal cor-porations. The Act of 1853, together with the various amending Acts, gives the C. C. power to appoint new trustees of charities, but only with the consent of a majority of the trustees where the annual income of the charitable trust exceeds £50, and to advise trustees of charities in the adminis-tration of trust funds. Trustees who act on the advice of the C. C. are inby statute against all The C. C. are also emdemnified liability. powered to give permission to trustees of charities to sell, mortgage, or grant leases of land held subject to a charitable trust. An important power of the C. C. is that by which they can adapt the charitable intentions of a donor to the requirements of modern civilisation in cases where the literal execution of the donor's wishes has become either inexpedient or impracticable. (See as to cy-pres undor Charities.) The court will not interfere with a schemo settled by the C. C except in a case where the commissioners have either exceeded their jurisdiction or formulated a scheme containing something wrong in principle or law. The administration of a charity by the C. C. may result in a considerable measure of economy, as thoir orders have the same effect as a judgment order or decree of the Chancery Division of the High Court, and moreover, they are invested with adequate powers of demanding accounts, instituting inquiries into the condition and management of charities, supervising the expenditure of income, and controlling the disposi-tion of the corpus or capital of the trust funds by the trustees. By the passing of the Board of Education Act, 1899, the powers of the C. C. in regard to educational charities were transferred to the Board of Educa-tion. The Act of 1853 makes provision for the appointment of three C. C., two at least of whom must be barristers-at-law of not less than twelve years' standing, and two of whom are salaried. See Bourchier-Chilcott's Administration of Chari-ties, 1912; Tudor's Charitable Trusts, 1906; and Annual Reports of the Commissioners.

Charity Organisation Society exists, as may be inferred from its name, for the purpose of organising charitable relief, repressing mendicity, and improving the condition of the poor. In constitution it is a federation of a number of district committees, one or more in each of the poor law divi-

sions of the metropolis and one outside the metropolitan area, each committee being represented on a central council whose offices are situate at Denison House, Westminster, S.W. The principles and methods of the C.O.S. are to be gathered from a statement of the division of labour as between the council and the district committees to be found in the society's question and answer handbook and annual reports. The council's duties may be said to be educative, reformative, and co-operative. They include inistration of

of co-operation on the part of all societies and individuals engaged in charitable work: the convention of special committees to report on questions connected with the administration of charity and the reform of charitable administration generally; and tho suppression by prosecution or otherwise of impostors on the charity of the benevolent. The council also supervises and endeavours to strengthen and consolidate the work of the district committees. The district committees apply the principles of tho council's methods by training workers among the poor, by bringing agencies and charitably-disposed persons into touch with each other, and by pro-moting local schemes for the aid of the poor and the spread of provident habits. The committees also receive and deal with applications for charitable help, taking care to test the bond fides of the applicants' statements, and to distinguish such cases as may be better dealt with under the existing The work of the C. O. S. poor law. on its educative and reformative side, combined with similar work on the part of other charitable societies, bas no doubt played its part in the introduction of legislation in the shape of social reformative measures. The institution of labour exchanges, the provision of medical and other benefits under the Insurance Act, 1912, and the passing of the Old Age Pensions Act, 1908, have to a certain extent effectuated the work of the C. O. S. in the direction of recommending aged and infirm persons for pensions, and promoting improve-ments in the administration of medical relief and the alleviation and prevention of unemployment. the report of the Poor Law Commission still uncrowned by any legisla-tive enactment, however, much still remains to be done in the solution of the problems of poverty. It is to be observed that there are other societies who have adopted the style of the C. O. S.; but in most cases they are affiliated to this, the parent body. In

tho colonies. Charivari, a French term of un-certain origin, used for a wild uproar caused by the banging of pans and kottles, mingled with hissing, groaning, and shouting, expressive of disapproval of the people against whom it is directed. It was originally a regular wedding custom in Franco in the middle ages, but later it was only used at unpopular weddings, particularly for widows or widowers who re-married too soon. The custom and name were introduced into French America where it became corrupted into 'sbivareo.' The violence and coarse nature of the Cs. wore strongly opposed by the Church, and in the 17th century the Council of Tours forbade them entirely under pain of oxcommunication. The custom still continues in some rural districts, and is similar to the notorious 'Haberfeldtreiben 'of the Bavarian peasants. In modern times tho namo C., from its suggesting satire and derision, has been takon as the titlo of various satirical papors, the Charivari (Paris), 1832, and as a sub-title for the English Punch.

English Punch.
Charjui, a tn. in Russian Central
Asia, near tho S. bank of the Amn
Daria and 70 m. S.W. of Bokhara.
Thore is a bridgo, more than a mile
long, across the river at C. built by
the Transcapian Railway. It has
some trade in raw cotton. Pop. 6000.
Charkhari, a state in the Bundelkhand agency of Central India. The
town of C. is 40 m. W. of Banda.
Pop. 12,000.
Charlatan (It. cialalana, from

Charlatan (It. ciarlaiano, from ciarlare, to chatter), introduced in the of the century as the name for a group of the 'jongleurs' who amused the people by their 'patter' and buffooneries. The name quickly became peculiarly associated with 'cheapjacks' and 'quack' doctors who wandered about selling their wares and patent medicines by imposing on the crowd with their 'patter;' hence the name has come to be used of any impostor who pretends to skill or knowledge which he does not possess.

Charlemont, a fort in Ardennes, France, standing on a height of 700 ft. by the R. Meuse, near the Belgian frontier, opposite Givet.

Charleroi, tn. of Hainault, Belgium. on R. Sambre, 9 m. S.W. of Namur. It is the centre of a great coal-producing region, and stands at junction of numerous railways which distribute the coal all over Belgium. There are large iron foundrics, machino-shops, factories of cutlery, glass, nails, woollens and yarns, and brickyards. The C. Canal connects

addition there are similar societies in jit with Brussels. Formerly a fortress. Pop. 24,800.

Charlemagne (Carolus Magnus), or Charles I. (c. 742-814 A.D.), son of Pépin le Bref, King of France and Emperor of the West. On his father's death, 768, he became king of Austrasia and Neustria, and on the death of his brother Carloman, 771, added his dominions, becoming supreme ruler of the whole empire. From 761 be had accompanied Pepin on various military expeditions. and

Holy largely due to his championship of Christianity. His war against the Saxons lasted from 772-804, some of the chicf incidents being the storming of Eresburg, destruction of the Irminsul, the May-field at Paderborn (777), and submission of the Saxon leader, Wittekind. The result was the complete subjugation and Christianisa-tion of the Saxons. C. diverced his first wife, daughter of Desiderius of Lombardy, and married a German princess, Hildegard. In 773 Pope Adrian I. appealed to C. to crush Rome, and supporting the descend-ants of Carloman. By 774 the con-queror had made himself also king of Lombardy. In 778 he fought against the Arabs in Spain. On his return ho mot with a reverse at Roncesvalles, where Roland and other famous paladins were slain by the Saracens. Then he waged border wars against Lombards, Bavarians, Avars, Bretons, and others (c. 788-800). In 800 Pope Leo III. crowned him at Rome as emperor of the West, with the title 'Cæsar Augustus.' In 808-810 he defeated the Danes, driving them backbelind the Eider. To protect his kingdom he erected marks or margravates in the border districts. In 813 he associated his son, Louis the Débonnaire, with him in the government. Louis was the only son who survived him, and became his successor. His ann, and occame his successor. His empire at its height stretched between the Elbe and Ebro, reaching eastward to Hungary, and S. to Calabria. C. was a patron of music and learning various patron of music and learning, welcoming such scholars as Eginhard, Alcuin, and Warnefriod His descendants wero at his court. known as Carlovingians, forming tho second dynasty of French kings. See Eginhard, Vita Caroli Magni, 1521, Eginnard, Vita Caron Magm. 1521, also German translation by Jaffé in Bibliotheca Rerum Germanicarum, 1839; Gaston Paris, Histoire Poétique de Charlemagne, 1865; Amglèro, His-toire Littéraire de la France sous Charlemagne, 1868; Mullinger, The Schools of Charlemagne, 1877; Vé-tault, Histoire de Charlemagne, 1876;

Guizot, Charlemagne and the Carlovingians, 1880; Haureau, Charlemagne et sa Cour, 1854; Gaillard, Charlemagne, Histoire de 1782; James, Life of Charlemagne, 1832; Von Gagern, Karl der Grosse, 1845; Schroeder, Geschichte Karl des Grossen, 1850; Sporschil, Karl der Grosze, sein Reich und sein Haus, 1846; Gibbon; Mombert, History of Charles the Great, 1888; Wells, The Age of Charlemagne, 1898; Abel and Von 1-3 fränkischen

roszen, 1888; Charlemagne,

Sories, 1900. II. the Bald (843-877), Charles Roman Emperor and King of the W. Franks, son of Louis the Pions, was born in 823. The division of the empire on the death of Louis the Pious was the cause of the outbreak of war between the sons of that king. C. and Louis the German forced the Emperor Lothairo to make peace at Verdun, 843. C. received as his share of the spoils tho western portion of the empire corresponding practically to Cæsar's Gaul. For a time the divided empire remained at peace. But C. was disliked by hisnobles, and, further, was unable to copo with the attacks of the Norsemen which at this time became very scrious. On the death of Louis II. C. received the crown of the empire, but Louis the German immediately invaded his kingdom and After the death of Louis

C. was called to Italy to devastation of the Sarace same time his nephew, Ca vaded Italy, and C. starte to Gaul, and died on the journey. He has been accused c but his inability to attacks with the Nors

largely to the lack of his nobles gave him.

Charles III. the Fat, Emperor of the Roman empire and King of the W. Franks. He was the youngest son of Louis the German, and received from his father the kingdom of Swabia. On the death of his two elder brothers he inherited the crown of the Roman empire (882). He proved himself utterly incapable of eithor ruling the empiro which was at this time threatened by many dangers, or of retaining the affection of his nobles. The outstanding dangers to two empireat this time were the Norsemen and the Saracens. His attempt to drive out the Saracens from Italy failed entirely, and ho was only able to { obtain terms with the Norsemen-

tobtained from his wife led to a conspiracy of the nobility which deposed him (887). He died carly in tho

next year. Charles IV. (1316-78), Emperor of the Holy Roman empire and King of Bohemia. Ho was educated in France and married the sister of the French king, Philip VI. He was chosen as tho king, Philip VI. He was chosen as tho German candidate for the empire in opposition to Louis IV. who had quarrelled with the papacy. He took part with his father in the battle of Creey, and succeeded to the kingdom of his father after that battle. He succeeded Louis IV. as emperor, and was supported by the pope, to whom he had granted practically the sove-reignty of Italy. He entered Italy only to be crowned, and although the Romans implored him to redress their grievances he returned to Bohemia. He imprisoned Rienzi, who appealed to him on behalf of the Romans, and took no notice of the pleadings of Petrarch. He occupied himself with his German dominions which were at this t rom the ravag He sucexceedecedec ingly en aptly deseri of the

Roman empire, sinco he relegated numerous privileges to the papacy, but lie was certainly a great bene-factor to Bohomia. See Werunsky, History of Charles IV. and his Time. Charles V. (1500-58), Emperor of

> In 1516 Ferdirecognised as " of Castile and Aragon in with his mother in 1517. year he succeeded to the

Hapsburg possessions on the death of his paternal grandfather, Maximilian, and two years later, in spite of considerable opposition on the part of France and the papacy, he was elected emperor. C.'s dominions were now widespread and various; ho ruled Spain, and the Americas, parts of Italy (Naples, Sicily, and Sardinia), together with the Hapsburg possessions which were themselves a scattered collection of different races. The difficulties which he had to face during his reign were immense, and these difficulties began right from the be-ginning of his reign. Undoubtedly his position was made more difficult by the numerous territories and nationalities over which he had to rule. was hampered in Spain by the Cortes.

Paris, which they besieged—by heavy payments. The divorce which ho was in almost every different part of

beginning of his reign can be shortly stated as coming: (1) From Lutheranism, a force which be found himself opposed to right at the beginning of his reign; (2) from the opposition to France, whose armics ho had to fight in the first few years of his reign in order to keep possession of his Italian dominions; (3) the continually increasing Turkish power in the east of Europe, which was made more formidable hy its alliance with piratical races of the north of Africa.
These difficulties were only solved transitorily by C., and were constantly reenring. His religions pollcy became manifest from his first appearance. ance at the Dict of Worms—the re-storation of Germany to the Catholic faith, and in this object he never faltered. The diet condemned Luther and Lutheranism; the constant attempts of C. to restore Germany to Rome accounts to a very great extent for his failure in that country. The early part of his reign may he re-garded as a constant struggle with Francis I., a struggle which ended only with the defeat and capture of Francis at Paris. In 1526 Francis, consenting to the terms of C., was released, and in the following year the Holy League was formed hy his quondam allies and his hereditary enemy, Francis. In the same year an army of the emperor gathered from almost every part of his wide cinpire, attacked, captured, and sacked Rome, making the pope a prisoner. C. lumediately disclaimed all responsibility for tho act, but made use of the advantages which it gave him. In 1529 Francis and C. made peace at Cambrai. During the events of the earlier part of his reign C. had been resident in Spain. The Spaniards had not been altogether pleased by the election of C. to the empire, since it had rele-gated them to the background. They had therefore put numerous difficnitles in his way, and had in many ways prevented him from raising a sufficiency of supplies for his wars. In 1529 C. was crowned emperor of --rdy, the

' the 'Protestant 'League of Schmalkald. But the threatened persecution of the Protestants was stayed by political Whilst C. was emperor of Germany he would always be dependent upon the goodwill of his Protes-

his empire a different system of side of the empire, and they now government. The difficulties of the threatened C., but the danger was avoided without war, and C. returned to Spain. In 1535 he stormed and captured the pirate stronghold of Tunis, and in the following year Francis again declared war. The war did not go fortunately for C., and in 1538 the intervention of the papacy hrought about a ten years' truce. In 1539 C. commenced his policy of crushing the power of the provincial Cortes of Spain, which from this time gradually sank into disrepute, and in the same year he cruelly crushed the rising in the Netberlands, depriving the town of Ghent of all its privileges. In 1641 he again attempted to attack Tunis, but was unsuccessful, attributing his lack of success to an 'act of God. Waragain broke out with Francis, and this time that Christian monarch did not disdain allianco with the Turks, and Europe was horrified when the Turkish fleet anchored and wintered in Toulon. That most Christian monarch, Henry VIII., sprang to arms and assisted C. in his invasion of France, which forced on the Treaty of Crépy (1544), when the French claims on Italy were again repudiated. C. was now free to carry out the policy upon which he had set his beart. namely, the restoration of Germany to the Catholic Church. Previously he had been compelled by the exigencies of political events to keep on good terms with the Protestants. The Protestants appealed to arms, but the greater force of C. defeated them and made their leaders prisoners. Tho Interim of Augsburg followed, hnt failed to please either the Protestants or the Catholics. Finally the schemes of Maurico of Saxony succeeded, and the Protestants were able to demand terms which they had never expected. The legal recognition of Protestantism followed in the Peace of Augsburg of 1555, although this was far from being a final settlement. C.'s greatest and best loved scheme had failed. In addition to this, long and earnestly he had attempted to bring about the succession of his son Philip to the empire. This scheme was again de-feated, and the double blow, together with the state of his health, led to his abdication in 1555. In that year be resigned the Netherlands, the most the and dearly loved of all his possessions, to his son Philip, in the following year he resigned the Spanish possessions, and in 1558 he formally resigned the empire, although his brother Ferdinand had been emperor in all but name since 1555. He spent the retant subjects for aid against the maining three years of bis life in natural enemies of the empire. This retirement at Yuste in the valley of time the difficulty arose in the E. Estremadura, where he died in Sept. The Turks were always a thorn in the 1558. Personally C. was populsr. In

Charles

persecutions were the extreme of sincere conviction, but were unfortunate. The Thirty Years' War was in itself the logical sequence of the Treaty of Augsburg. See Robertson's History of Charles V., and Life by

Armstrong.

Charles VI. (1685-1740). Emperor of the Holy Roman empire, second son of the Emperor Leopold I., was born at Vienna. When the extinction of the Spanish Hapsburg house became apparent, he was put forward as the Austrian elaimant to the Spanish inheritance. By the second Spanish inheritance. By this second and parameter granted but share Partition Treaty he was to he recognised as the king of Spain, but on the demise of Charles II. of Spain, Louis Herrietta Maria, who was allowed to XIV. practically tore up the Partiset up a Catholic chapel at court and tion Treaties. He was, however, to hold Catholic services. In the proclaimed by the allies as k of Spain, and went to Spain in early stages of the war. mained there until 1711, meet with very little success, although he was supported by the Catalans, and even entered Madrid. But he was nover popular with the Spanish people, and in 1711 he practically forfeited his claim when he became emperor. The idea underlying the war of the Spanish Succession was to preserve the balance of power, and C. was informed that an attempt to revive the domi-nions of Charles V. would not be permitted by the powers. He ultimately abandoned Spain and turned his attention to securing the succession to the Austrian thronc for his daughter, Maria Theresa. He foresaw the struggle which must arise on his death without male helrs, and he sacrificed much in order to get the Pragmatic Sanction recognised by the powers. During his reign the war with the Turks was brought to a successful issue by the Treaty of Passarowitz, but before the end of his reign he had lost almost all that he gained

Charles I. (1625-49), King of Great Britain and Ireland, the second son of James 1. and his wife Anne of Denmark, was born at Dunfermline in Nov. 1600. He was created Duke of Albany on his birth, Duke of York in 1605, and four years after the death of his clder brother he received the title of Prince of Walcs (1616). At an early ago he took a lively interest in politimatters, and after 1620 fell under influence of Buckingham. In 1623 bjects. The High went to Spain with Buckingham to Church was favoured, the Catholies attempt to bring about his marriage tolerated, and the Puritans persowith the infanta. The proposed marcuted. His Scottish policy precipirage was unpopular in England and disliked in Spain. The Spaniards ex-Scotland for his Scottish coronation;

by that treaty. He died in 1740, tho

last male of his house.

his policy he was at least sineere, but pected complete tolerance for the the inheritance which he left to Catholics, and the prince anticipated Philip bore dire results. His religious Spanish help for his brother-in-law, persecutions were the extreme of sin-The plans for this marriage failed, cere conviction, but were unfortu-England to urge James to declare war on Spain. In 1624 C. entered into a marriage contract with Henrictta Maria of France, and although both the king and the prince declared that no tolerance would be granted to the Catholics by the marriage treaty, this promise was not adhered to. He im-mediately called parliament together and promised no remission of the penal laws against the Catholies; but already his duplicity was known, and parliament granted but small supplies and insisted upon the redress

> parliament, and although he tried to menace it, victory really rested with parliament. He was already involved in difficulties, and to these difficulties was added a war with France. In 1628 his t and passed tbe ch forbade of parliataxa ment and arbitrary and illegal imprisonment. C. was forced to consent to this. In 1627 the expedition to the Isle of Ré had failed, and in 1629 a similar expedition met with a similar fate and Buckingham was assassinated at Portsmouth. In the same year C. dissolved his third parliament, but not until they had passed a resolution condemning innovations in religion and the collection of tennago and poundage. From 1629-40 C.ruled without a parliament. without a parliament. The cleven years' tyranny involved C. in many attempts to raise money for his immediate needs. In almost every way ho roused the antipathy of his subjects; he levied tonnage and poundago, he sequestered estates, and this policy led to the loss of the support of London; he established a military tyranny in Ireland under Wentworth (Strafford). In 1634 ho made his first levy of ship money, and in the following year he made another levy, this time on the inland towns as well. In 1638 came the great Hampden case, when C.'s right to lovy ship money by the courts. His lso roused the ill-bjects. The High

in 1637 this led to a riot in St. Giles Cathedral and to the signing of the Covenant. A general assembly was called, but when this assembly was called, but when this assembly pro-posed to discuss Episcopacy it was dissolved by the high commissioner. The assembly, however, refused to dissolve and abolished Episcopacy. Having done this, it prepared to meet the king in arms. The king, finding himself unable to raise sufficient forces. the advice of Strafford ealled liament. The Short Parliament parliament. mct in 1640; it proposed to discuss grievances and was immediately dissolved. He again went north to attack the Scots, and again found it impossible to meet force with force. The result was that peace was made with the Scots practically on their own terms, and C. turned his attention to England, where in Nov. 1640 he called the Long Parliament. The result of the eleven years' tyranny had bccn hopcless failure. The parliament which met in 1640 was in no mood for trifling. The imprisoned members of his third parliament had bitter personal grievances, and the whole eountry was in favour of reform. The execution of Strafford was immediately decided on by the Long Parliament, and although C. had sworn that not one hair of his head should be touched, he was ultimately forced to consent to the execution of his great minister. Parliament forced concession after concession out of C. Parliament was only to be dissolved with its own consent, the Star Chamber and High Commission Court were abolished, and ship money was declared illegal. C. was, however, still intriguing and still trying to find some way in which he could escape from the clutches of parliament. In 1641 he was forced to listen to the Grand Remonstrance, and early in Jan. 1642 he made the disastrous attempt to imprison the five members. He rode back to Whitehall after his failure amidst cries of 'Privilege of parliament, and now began to prepare for war. Hull refused to admit C. in April 1642, and in August C. raised his standard at Nottingham. The early stages of the war went on the whole in his favour, but after the advent of Croniwell's Ironsides, viewith which the king met are Marston Model Army erush interly. On May 5.
rendered to the Scot was taken to New York and th was taken to Newcastlo. The history of the years 1646-49 are complicated

in 1636 Laud's liturgy was introduced, parrive at a settlement with the Scots, he was surrendered by them to parliament in 1647. Negotiations were kept up by C. with all parties, but it was obvious that he could not be trusted. In 1647 he entered into the 'engagement ' with the Scots which resulted in the second civil war and the determination of the ultra-Puritans to bring the king to execution. In Jan. 1649, parliament having been cleared of all possible supporters of the king by Pride's Purge, resolved to bring the king before a high court of justice. On the 19th the trial began. The king refused to recognise the children of the court of jurisdiction of the court, and on the whole beliaved with magnificent dignity and self-possession. His execution, however, was resolved upon, he was brought up to hear the seutence passed upon him on the 27th, and was not allowed to make any answer to the charges. He was exceuted before Whitehall Palace on Jan. 30, his last word being 'Remember!' See Lives by Chancellor and Skelton:

Charles II. (1630-85), King of Great Britain and Ireland, was born on May 29 at St. James's Palace. During the Civil War he was with his father during the early events, but after the defeat at Naseby he went to Falmouth, and from thence to Sellly. From Sellly he went to join the queen in Paris, and he remained there for two years. On the execution of his father in 1649, he was immediately proclaimed king in Scotland. He projected an invasion of Ireland, but in 1650, having signed the Solemn League and Covenant, he embarked for Scotland. On landing in Scotland he found himself in the power of the covenanting party, and was made to take a number of oaths which he had no intention of keeping. On Jan. 1, 1651, he was crowned at Scono, and on Sept. 3, his forces having penc-trated England as far as Worcester, were defeated by Cromwell. C., who distinguished himself by his bravery during the battle, fled, and after wan-dering in disguise throughout the country for six weeks, got away in safety to France. In 1654, relations between England and France having altered, he was forced to guit France, and spent the rest of his years of exile in wandering from one country to another. He tried to induce various of

en put down early in May

by the maze of intrigue into which C. cntered at this time. After failing to he was declared king at Westminster. and immorality, was a secret Catholic, and had no patriotism. Innate sel-fishness is the dominant note in the whole of the policy of C. II.'s reign. The first seven years of his reign were passed under the domination of Clarendon. The Restoration settlement was not followed by any very great persecution, a number of the regieides were executed, but on the whole the Restoration was toleraut. The Cavalier parliament, however, restored the Church in England, and restored the Church in England, and in a similar manner hishops were restored to Scotland. The early years of the reign were disgraced by the Dutch War, during which the Dutch even sailed up the Thames and destroyed the shipping there. In 1667 Clarendon was disnussed, and Buckingham and Arlington became the chief ministers: these together with chief ministers; these, together with Lauderdale, Ashley, and Clifford, Lauderdale, Ashley, and Clifford, formed in 1672 the famous Cabal. It was during this period that C. entered into those close relations with France which made him practically the pensioner of the French king, which gained him incidentally a fresh mis-tress in Louise de Kéroualle, and which cost England her natural foreign policy, which was obviously to attack the aggrandisement of France. In 1670 were signed the two secret treaties of Dover, the first of which pledged C. to the overthrow of Protestantism and gave him a pension of £200,000 per annum. The Cahal ministry met with considerable op-The Cahal position in the country, and many of the acts of the king and his ministers treme. The 'stop of the exchequer' erowned at Rheims. He forced the de ruined a number of people, and the facto king. Odo, to cede him Neustria, declared illegal by parliament. declared illegal by parliament, and the Test Act was passed. Danby now became the chief minister, but even he was carried away by the policy of his royal master, and another treaty with France was signed, a treaty which gave France the control of our foreign policy. In 1677, however, William of Orange married Mary, the eldest daughter of James, Duke of Danby, whose share in the treaty with France was disclosed by feated, hntC. limeselfwas breachery Louis XIV. in revenge for his having prought about this marriage, only escaped impeachment by the dissolution of parliament. In the mean-last of the direct Capetian line, was

Towards the end of the month he time the country had been agitated sailed from Breda and landed in England, where he was received with renthusiasm everywhere. The general Protestant party. C. met it in the returned from his travels with two ideas firmly implanted in his mind; he would not again go on his travels, tand he would have his own way in his course of time the falseness of it would have his own way in vice or the protestant party. C. met it in the hest possible way. He recognised that it had received general eredence in the country, and he allowed it to continue to the country. The protestant party was received to the avelupion party now pressed for the exclusion of James, Duke of York, from the crown. C., whilst reiterating that he would never consent to the Exclusion Bill, sent James ont of the country for a short time, and declared his pleasure at the attempts to convert him to Protestantism. The exclusionists, however, went too far in asserting the claim of James, Duke of Monmouth, C.'s illegitimate son by Lucy Walters. The exclusionists, who insisted in the parliament of Oxford on the recognition of James, Duke of Monmouth, caused the dissolution of parliament, and C. which

> extrem C. was supreme, he continued his intrigues with France, and did all he could to help on the aggrandisement of that country. His popularity was immense, and was increased by the discovery of the Ryc House Plot, for which Sidney and Russell paid the extreme penalty, and he gradually began to attempt the restoration of the Catholic religion. His movements in this direction were barely apparent when he died. He declared himself a Roman Catholic on his deathbed. He left no children by his wife, but a numerous progeny by his many numerous progeny by his many mistresees. See *Life* by Airy. Charles III. the Simple (893-929),

King of France, the posthumous son of Louis the Stammerer, was born in S79. He was not called to the throne on the death of Charles the Fat, hecause of his extreme youth. In 893, however, he was recognised by and ultimately, on the death of Odo, he became king of all France. His reign is of great importance owing to the fact that by the Treaty of St. Clair sur Epte he ceded Normandy to the Norse leader Rollo, and thus established the inture duely of Normandy. The growth of the power of the king, however, roused the jealousy of the nobles, who made a conspiracy against him and placed Robert on the throne. The Robertians were de-feated, hntC. himself was by treachery

with his sister Isabella the plot which

finally overthrew Edward II. Charles V. (1364-30), King of France, sometimes styled Charles the Wise. was born in 1337. He was the son of King John II., and narrowly escaped the fate of his father at the battle of Poitiers. During the imprisonment of John in England he acted as ruler of the country. The beginning of the Hundred Years' War with Eng-land had brought many difficulties to the French monarchy, and C. was called upon to face these. The States-General when it met had demanded reforms which would have given them great powers, and would have made the king practically a constitutional monarch. The merchant and bourgeois classes had seized their opportunity to compel the ruler to make reforms, and in 1358 the Jacquerie added to the difficulties of the crown. Politically C.'s great struggle was with the king of Navarre (Charles the Bad), whom he ultimately managed to overcome. The Treaty of Bretigny brought with it the return or John, who, however, was unable to raise his ransom, and returned to England, where he died in 1364. C. was now able with the aid of Bertrand du Gueselin to put down the most formidable of his foes and to get rid of a number of the Free Companies that were ravaging the country, and order War was now was at last restored. renewed with the English, and C. was snecessful in winning town after town until by 1380 only a few towns remained in English hands. In 1378 he made a premature attempt to annex the duchy of Brittany to the French crown, but his attempt brought in its train a national rising. Be settlement was made C. died. Before any

Charles VI. (1380-1422), the son of Charles V. and the first of the French princes to bear the title of the Danphin from birth, was born in 1368. He succeeded to the throne at the age of minority twelve, and during his France was governed by the dukes of Berry and Anjou. The excesses of the regents brought with them rebellion in the chief towns of both N. and S. France.

The norther rebells were at fast accountable. N. and S. France. The northern rebels were at first successful in winning for themselves terms, but those of the S. were ruthlessly crushed. The English gave some aid to the passed over in the succession to the robels, and C. prepared a fleet for the erown. He retired to Mehun, near

born in 1294, and succeeded his invasion of England. His forces brother, Philip V. He tried to continue the policy of angmenting the 20,000 men-at-arms, 20,000 cross-power of the central anthority at the symmetry of the central anthority at t to obtain money heresorted to dubious numerable, 1287 vessels according to methods, such, for example, as the some, was collected on the coast of confiscation of the property of the Flanders; and an enormous wooden Lombard merchants. He arranged bulwark was constructed capable of sheltering, it was said, the whole army from the dreaded archery of England it could be taken to pieces and replaced at pleasure. But various delays, whether from contrary winds or other causes, prevented the sailing of the fleet, or a tempest so far shattered it as to frustrate its object. In 1388 C. asserted his authority hy driving from power the royal dukes and appointing ministers of his own, who, because of their humble origin, were called the 'Marmousets.' In 1392, however, C., whose constitu-tion had been undermined by ex-cesses, had his first fit of madness, and this was followed by others of such frequent occurrence as to show that it would be unlikely that C. would be able to rule personally. The royal dukes immediately regained their power in France, and the struggle commenced between the Burgundians and the Orleanists. Externally, during the latter years of the century, affairs were quiet. Peace had been restored with England, but this again was upset by the deposition of Richard II. (C.'s son-in-law) and the accession of Henry IV. The struggle between the Burgundians and Orleanists was now pronounced, and matters were brought to a head by the murder of Orleans in 1407. The Bnrgundians for the time held the upper hand, and in league with the Parisians forced the king to do their will. In 1413 the Orleanists entered Paris and drove the Burgun-dians into the arms of England, with whom they concluded an alliance. Henry V. pnt forward the claim to the French crown and invaded France. In 1415 Agincourt was fonght, and in 1418 Paris was captured by the Burgundians. In the following year John the Fearless was assassinated, and the Burgundians definitely became the allies of the English. In 1420 the Treaty of Troycs, followed by the marriage of Henry V. to the daughter of Charles VI., took place, and Henry became practically master of France. King of Charles VII. (1422-61), King of France, the fifth son of Charles VI., was born in 1403 and became lieutenant-general of the kingdom in

1417. His power and authority, however, sank after the murder of John the Fearless in 1419, and by the Treaty of Troyes he was passed over in the succession to the

torics of the English during the early part of his reign lost him still more power. The central provinces of France were involved in internal civil struggles, and C. secmed to have no hope of success when the 'Maid of France' came to his rescue and led him to success after success. Orleans -s crowned at

the ingrati-

gave Jeanne d'Are a prisoner to the hands of the Eoglish. Later in his reign C. recognised the services of the 'Maid of France.' After 1435 affairs in France assumed a brighter state since the Duke of Burgundy joined forces with the French in driving out the English. The English were gradually driven out of their French possessions until by 1455 they retained only Calais. In the meantime C. had had diffieulties to face at home, and had managed to restore order both amongst the nobility and the poople. Most of the king's councillors were drawn from the bourgeoisle, and most of C.'s ministers served him well: for this reason the title of Charles the Well Served is often applied to him. During his reign the power of the ceutral authority was greatly increased and by the end of his reign France had once more begun to settle down to

days of peace and prosperity.
Charles VIII. (1483-98). King of France, the only son of Louis XI., was born in 1470. He succeeded his

the reins of government for

He, however conceived 1495, but was unable to proceed any further with his plan since a coalition of the powers was formed against hlm. He was forced to return to France, and here whilst preparing for a second expedition, he died. Charles IX. (15:6-74), the third son

of Henry II. and Catherico of Medici.

Bourges, and remained there for mother. Ho was a youth of extreme some time. On his father's death he was recognised as king of France by tastes. He was passionately devoted to the content provinces, but he gradutother provinces, but he gradutothe souther provinces to the chase, but his excesses under mined his constitution. He married in 1570 Elizabeth of Austria. the appearance of Coligny at the French court, he showed great friend-liness, but his weakness and his fanaticism were so eleverly played on by the Catholic party that in 1572 was perpetrated the massacre of St. Bartholomew's Day. After this event C. aged rapidly, and at the time of his death he appeared to be an old man worn out by fever and nightmare.

Charles X. (1824-30), King of France, the sou of the Dauphin, the son of Louis XV., and honce a brother of Louis XVI, was born in 1757. His youth had been passed in the wildest dissipations, and he had made himself and his party exceedingly uncoulder in France He benefit of the south of the ingly unpopular in Frauce. He be-came the lender of the ultra-Royalists on the outbreak of the French Revolution, and in 1789 he left Franco to become the leader of the Emigrés. Ho visited many of the courts of Furope, attempting to gain help for the Royalist party. In 1795 he landed in France to put himself at the head of the rising of La Vendee, but his courter felled her was delut his courage failed him, and he left the Royalists of the W., unsup-ported to be crushed by the fcrocity of Hochc. He lived for the rest of his period of exile in Holyrood Palace, and later at Hartwell. In 1814 he returned to Franco. and during the reign of his brother Louis XVIII. he was at'the head of the party of ultra-Royalists and was successful in gainwas norm in 1470. He succeeded his floyansts and was successful in gain-father, and although ho was declared ing the day for the party of reaction, capable of ruling he left the government of the country in the hands of bleams popular, but his popularity his sister, Anne of Benijeu. He was not increased by the obvious married in 1491 the Duchess of Brittany, thus uniting the last in- 'Royansts and was successful in gain-father and was successful in gain-father.

, he romantic projects. He decided to attempt to obtain the kingdom of tutioual monarch, and, although lie Raples, to reconquer the Eastern was compelled to get rid of the unempire and to become its omperor. To obtain this desire he sacrificed no signs of riving up the Royalist proveverything: he entered Naples in the compromised ministry 1495 but was unable to record and the sacrifications. The compromised ministry 1495 but was unable to record and the sacrifications. ets. which ho set up failed to please him, and he dismissed it. In 1830 the elec-tions having gene against him and finding violent opposition in Chamber of Deputies, he suspended the constitution. The result was the outbreak of a revolution which C. at first did not treat seriously. The king was born in 1550. He succeeded to retired from Parls, and, when the the throne at the age of ten, and seriousness of the state of affairs was naturally the chief power still research in the hands of the queen favour of his grandson. Louis Philippe,

Duke of Orleans, however, was chosen, the Two Siellies he had shown his king, and C. retired again to England, desire to act as an enlightened and benevolent despot, now he proceeded retired for his health, in 1836.

Charles II. (1665-1700), King of Spain, the son of the old ago of Philip IV.. was born in 1661. He was from infancy weak, deformed, and diseased, but his birth was received acclamation by the Spaniards, who dreaded the settlement of the succession question. For years he was not allowed to walk, and his education, because of his weakness, was neglected. But it quickly became apparent that the king would never rule, and the whole of his reign was taken up with struggles between the Austrian and French parties at court. Each of these scored a triumph by arranging a marriage for the king. The French party married him to a French princess, and on her death ho was married to an Austrian princess. It was obvious throughout the reign that on the death of C

French party continuinto the ears of the king one fact that only the power of France could save the Spanish empire from dismemberment, whilst C. himself could barely be persuaded to assimilate this fact owing to his extrono pride in the house of Hapsburg. Finality, on his deathbed, he was practically forced to sign a will leaving the Spanish dominions to Philip of Anjou, grandson of Louis XIV.

of succession would be

son of Louis XIV.

Charles III. (1759-83), King of Spain, the cidest son of Philip V. of Spain by, his marriago to Elizabeth Farneso of Parma, was born in 1716. He was Duko of Parma by right of his mother, and spent his early youth in Italy. In 1734 he became king of the Two Sicilies, and those he mastered by sheer force of arms although he was not a great soldier, nor had he any special liking for arms. He early showed great hostility towards Great Britain, a fact which influenced his foreign policy at a lator date, and which was probably due to the fact that at the beginning of the war of the Austrian Succession he had been forced to remain uoutral under threat of hombardment by the English fact. On the death of Ferdinand VI. of Spain he succeeded to the throne. His foreign policy was not noted for its enlightenment. He signed the family compact with France, and took part in the later phases of the Soven Yours' War against England somewhat disastrously. He again joined the French in 1779 in their attacks upon England during the

the Two Siellies he had shown his desire to act as an enlightened and benevolent despot, now he proceeded to carry out that policy still further. He forced the Spaniards to adopt sanitary reforms. He recognised that the power of the Church had become too great, and he curbed it. He destroyed the Society of Jesus in Spain, and reduced the number of monastic buildings. In spite of this somewhat drastic policy he always remained a true son of the Church. Roads and canals were constructed, and altogether the period may be regarded as one of great prosperity for Spain. C. died just on the eve of the French Revolution.

Charles IV. (1788-1808), King of Spain, the second son of Charles III., was born in 1748. Ho was noted during his youth for his extreme strength, being a man of fine physical build. He succeeded his father in 1788, but devoted his time to the chaso. Leaving

ant of the country to be by the queen and her

He was ferrified by the excesses of the French Revolution, and attempted by a policy of extreme reaction to prevent the growth of a 'reforming' party in Spain. He was a man of great credulity, and it is most probable that he never understood the relations of Godoy and his queen. In fact he always had great faith in his minister, and even went so far in 1808 as to abdicate to save him. He took refuse in France, where he was a strong believer in the theory of divino right, and probably saw nothing wrong in his action in betraying his neeple. He died at Rome in 1819.

his neople. He died at Rome in 1819. Charles VII., King of Sweden during the middle of the 12th century. Helped to organiso the Christian Church in that country and created the archbishoppie of Upsala, 1164.

the archishopric of Upsala, 1164.
Charles VIII. (d. 1470), elected king of Sweden in 1449. His name was originally Karl Knutssen Bends. He was forced to retire before Christopher of Bayaria in 1441, and after the death of the latter prince was restored, but had again on two occasions to seek safety in flight. After his death the three kingdoms of Scandinavla were again united.

Spain ho succeeded to the throne. His foreign policy was not noted for its onlightenment. Ho signed the family compact with France, and took part in the later phases of the Sovon Yoars' War against England somewhat disastrously. He again joined the French in 1779 in their attacks upon England during the American War of Indopendence. But his internal policy is a great contrast to his foreign policy. Whilst king of king's reign. When Sigismund, a

1592, C. came forward as the cham-pion of Protestantism. He was ap-pointed regent in 1595, and hecame king in 1600, when Sigismund was deposed. He did not, however, assume the title until 1604, and was actually crowned until 1607. His foreign policy, which is the most important aspect of his reign, involved prepared the way for his great son, Gustavus Adolphus, hy his fervent

Gustavus Augustavus Adolphus, Charles X. (1654-60), King of Sweden, nephew of Gustavus Adolphus, horn in 1622. A great warrior the later camden, nepnew of Gustavus Adolphuk, was horn in 1622. A great warrior king, he took part in the later eampaign of the Thirty Years' War, but was for a short time forced to remain inactive hy the Treaty of Westphalia (1648). He was the recognised heir to the Swedish throne, to which he succeeded on the abdication of Queen Christina. In 1655 he determined upon war with Poland, and called the Riksdag to grant him supplies. He gathered together a great army and navy and attacked the Poles. Warsaw was easily won, and after a long siege Cracow fell also, and Poland appeared to he conquered, but the Poles were stirred to the depth of their national feeling by these events, and forced the Swedes to retire from the siege of Czenstochow, which had held for over ten weeks. This suc This success very high degree, and the Polish army hecame again active. C., who desired the conquest of Brandenburg, was by his unfortunate position forced to buy the support of the elector at the price of Prussian independence, and in the following year the Danes de-clared war against him. This helped rather than hindered him. since he was able to give up the Polish campaign on the same justification and concenfrom the S., but I

feats were the creand Great Belts the ice. The ef movement was to who immediately

who immediately for peace (1658)

cession of large tracts of territory, ing to his own ideas. He was a hard C., however, again without warning worker, and also showed far more attacked the Danes in the midst of humanity than was customary at that these negotiations, and it was only time in one of such high rank. The with considerable difference was readitating an extent when Norshmark he succeeded in decing the succeeded in decing the succeeded in decing the

was meditating an attack upon Nor- mark. He succeeded in defeating the way, and had crossed to Sweden to Danes and wringing from the Danish persuade the Riksdag to grant him king a promise to abstain from fur-

Catholic, and already king of Poland, further supplies, he died, worn out succeeded to the Swedish throne in prohably with the strenuous life he had led.

(1659-97),Charles XI. Charles AI. (1609-97), Ring of Sweden, succeeded to the throne at the age of four, being the only son of Charles X. His cducation, hoth general and particular, was shamefully neglected by the regents, and C. was practically illiterate when portant aspect of his reign, involved he was called upon to rule the state him in wars with Russia and Denant to make the final struggle against mark, which were not successful. His Denmark. The whole court was corimportance is due to the fact that he rupt and degraded, yet C. showed great courage and skill in tackling the difficulties of the situation. He commanded his armies in person, and spent much time and thought in preparing for the national struggle. He defcated the Danes at Fylleboro in 1672, and in the same year he defeated Christian V. of Dennark in the great battle at Lund. The hattle was hardly contested, and although the losses of the Swedes were great, still they gained the victory and practi-eally annihilated the forces of Denmark. In 1678 he again defeated the Danes at the hattle of Malmo, and in the following year was forced to con-sent to a peace dictated by Louis XIV. The rest of his reign was devoted to the establishment of Sweden upon a sound hasis, and to the rectification of her financial position. Practically every sido of the administration was overhauled, financial matters were

roused the feelings of the Poles to a him high in rank amongst the kings

of Sweden. Charles XII. (1697-1718), King of Sweden, the only surviving son of Charles XI., was born in 1682. He was given an extraordinarily careful training in every respect when young. At an early age he showed considerable natural ability. He was a good rider, a good marksman, and in mathematics and languages he excelled. He was also carefully trained trate against Denmark. He attacked in matters of administration, and at nterested in all the

He succeeded .. and was given the it once. He was at the beginning of there were indica-

ther hostilities. against the Russians who were besicging Narva, and after a week of regent of the country. forced marches succeeded in defeating the besieging force with but small loss to himself. He now turned to pursue the foe whom he regarded with the greatest bitterness, Augustus of Saxony, King of Poland. He captured bitterness, Warsaw and marched against Cracow, defeating the Poles and Saxons at Klissow. He ravaged the territory he passed through, spoiled the towns, and harried the inhabitants. In 1703 C. won the battle of Pultusk, and later another battle at Pienitz. He deposed the Saxon Augustus, and set np a candidate of his own for the throne of Poland, a candidate who was orowned in 1705. He came into Western Enrope just at the crisis of the war of the Spanish Succession, but he had no designs on Western Europe-ho desired only the ruin of his natural enemics. In Sept. 1707 he forced Augustus to sign a treaty by which he resigned his claims to the Polisb crown, and his hostility to Sweden. He now marched against Russia, defcated them at Holorsezyu, and as tho Russians fell backfollowed slowly towards Moscow. Realising that he could not reach Moscow, he now marched southward to join the hetman of the Cossacks, Mazeppa. Peter had already destroyed Mazeppa's conspiracy, and when the hetman joined C., it was as a fugitive. The winter of 1708 was the most severe Europe had known for 100 years, the sufferings of the Swedes were unimaginable; food failed them, and later the weather became so severe that they could not possibly keep themselves warm. The king was at his best at this time, cheering and encouraging his men. Finally, when the frost broke and the Russians were attacked, the Swedes were practically annihilated, and C. with the remnant of his army took refuge in Turkey. He had great influence in Turkey, where he remained from 1709-14, and caused the Turks to declare war on Russia no less than three times. He finally, however, becameso troublesome that after a desperate fight he was taken prisoner at Bender, and finally quitted Turkish territory and arrived in Sweden in Nov. 1714. C. immediately raised an army which was strong enough to prevent his being attacked by his enemies, and in 1717 he opened hostilities with Norway In the following year, whilst again leading an expedition to Norway, he was shot in the trenches whilst besieging Fredcrikshald.

He then marched self as an admiral in the Russosians who were be-Swedish War, and later became He practically dropped out of state affairs after 1796 until 1809, when be was eleeted king in place of Gustavus IV., who was deposed. In 1810 Bernadotte (Charles XIV., q.v.) was elected crown prince and practically took all power out of the hands of the king, who had by this time become decrepit. In 1814 he became the first king of a united Norway and Sweden, and in 1818 he died, having for ten years been king only in name. Charles XIV. (1818-14), King of

Norway and Sweden; known also as Jean Baptiste Jules Bernadotte; the son of a lawyer at Pau. He was born in 1763 and entered the French service in 1780, and showed considerable ability in his profession, On the outbreak of the Revolution he received speedy promotion. He was present at the battle of Fleurus and took part in the caupaigns in Ger-many. In 1797 he took reinforce-ments to Napoleon in Italy, and in the following year he became ambassador at Vienna. In the same year by his marriage to Désirée Clary he heeame the brother-in-law of Joseph Bona-parte. He did not take an active part in the coup d'état by which Napoleon became First Consul, but he was given in 1801 the command of the army in La Vendée. In 1804, when the empire was declared, he was made a marshal of France and was also appointed to the governorship of the province of Hanover. He took part in the cam-paigns of Ulm and Austerlitz, and was later made governor of the Hanse towns. After the battle of Wagram he returned to Paris, having incurred the displeasure of Napoleon by issuing an order which congratulated the Saxons on the courage which they had displayed at Wagram. In 1810 he was appointed to command in the Netherlands. In 1810 he was offered the crown of Sweden, both because he had considerable popularity there and also because the Swedes desired a strong military ruler, and in the same year was clected crown prince. In November he went over to Sweden, where he was adopted by the king, Charles XIII., under the name of Charles John. He almost immedi-Charles John. He almost immediately became exceedingly popular. and never really lost his popularity, although some of his views were displeasing to the majority of his subjects. He took part in the later German campaigns against Napoleon, and in 1818 he succeeded his adopted father Charles XIII, with the title of Charles XIII. (1809–18), King of father Charles XIII, with the title of Sweden and Norway, the second son (C. XIV. His policy from the begin-of King Frederick Adolphus, was hing had been to bring about a union born in 1748. He distinguished him with Norway, and in this he was ulti-

enlightened monarch. Charles XV. (1859-72), King of Sweden and Norway, was born in 1826. He was the eldest son of Oscar I., and became regent in 1857. He became an exceedingly popular and enlightened king, and during his reign a number of great reforms were made. The laws of the church and the criminal laws underwent considerable reform at this time, and the king also gave his support to the laws which reformed the constitution. He was himself a man of great gifts and had considerable ability. He was a strong supporter of the policy of a strong Seandinavia.
Charles I. (1265-85), King of Naples

and Sicily, Count of Anjou, and seventh son of Louis VIII. of France. He was born in 1226 before the accession of his brother, Louis IX., and was later, on the decease of another brother, given the counties of Anjou and Maino. In 1246 he married the heiress of the county of Provence, and after some difficulty he succeeded in establishing his authority over his new possessions. He accompanied St. Louis on his first crusade, and was with him when he was defeated and captured, he hinself sharing the same fatc. Ransomed and released before tho king, he returned to France to intriguo with the Countess of Flanders against the emperor. In 1257 he captured the important town of Marseilles, and began to make his in-fluence felt in Piedmont. His great His great opportunity came when the pope desired to break down the power of the Hohenstaufen in Italy. He was offered the crown of Naples and Sicily, for which he was to pay a yearly tribute to the pope, and which also he would have to win from their allegiance to Manfred, the natural son of Frederick II. He finally accepted the papaloffer, and despatched an expedition to they in 1264. In the following year he was crowned king of the Two Sicilies, and a year later he defeated and killed Manfred at Benevento. In 1268 a battle was feught with Conradin, the last descendant of Frederick II., and resulted in the dethe last descendant of feat of the supporters of the Hohenstaufen and the capture and execution

mately successful. His reign on the Vespers, inspired by the cruelty and whole was one of development and ill-rule of the French. C. determined peace, and he proved himself an to avenge this disaster, but after two to avenge this disaster, but after two defeats, finally had to give up all hope of regaining Sicily. He was preparing another attempt from Naples when

he died. Charles VII. (1697-1745), Emperor of Germany, Elector of Bavaria, the son of the elector of Bavaria. Since Bavaria tock the side of France in the War of the Spanish Succession, C.'s early youth was spent in Vienna, where he was taken by the Austrians. The electorate, however, was restored at the end of the war, and C. took part in the campaign of Austria against the Turks. He succeeded to the electorate in 1726, and his reign was taken up (in spite of having recognised the Pragmatic Sanction) in plotting to obtain the Imperial Crown on the death of Charles VI., unclo of his wife Maria Amelia. The Bavarian house had some claim to the Imperial throne. In 1740 he claimed the Imperial erown and was put forward as the puppet of the anti-Austrian He was crowned in 1742, faction. sovereignty was merely but his

but his sovereignty was merely nominal. His hereditary dominions were overrun, he was twiee restored to his capital, but he died, worn out by his many illnesses and troubles. Charles I. of Roumanla (b. 1839), the second son of Prince Karl of Hohenzollern-Sigmaningen. He was educated at Dresden and Bonn, and served with the Prussian forecs in tho Danish War, 1864. He learnt the art of war under Von Moltke; was in 1866 elected Prince of Roumania, which at that time was only a princlpality. He found himself at first distributed by the Powers of the East (Turkey and Russia especially), but the wisdom and enlightenment of his general policy soon allayed any fears which his election might have caused. His firm handling of political matters in Roumania itself led to the establishment of seunder conditions in that ceuntry, and to the develop-ment of the country itself. Railways were developed and sound commer-cial relations established with other countries. He joined the Russians before Plevna in 1877, and toek an active part in the Russo-Turkish War. The independence of Roumania was declared in 1877 and recognised in stattlen and the capture and execution; deceared in 1877 and recognised in of Conradin. His power was now at 1880. In 1881 he was crowned king, its greatest. He was recognised as one of the most powerful monarchs in Fig. 18. 18. (*Will Curmen Sylva).

| The contradint of the princes of the most powerful monarchs in | Fig. 18. 18. (*Will Curmen Sylva).

and ill-fated crusade of Louis IX., line of the heuse of Holenzollern-after whose death he returned to Sigmaringen and the heir-apparent Italy. In 1282 occurred the massacre is the nephew of the king, Prince and expulsien known as the Sicilian Ferdinand, since Charles' daughter

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succession was regarded with horror supposed revolutionary ideas, He the king (Charles Felix) to abdicate, and C. A. became regent. He granted a constitution which was repudiated hy the king, and he himself hecame distrusted hy both Royalists and Liberals. He was still, however, regarded as the heir-apparent, although Metternich strongly favoured the selection of an Austrian prince. In 1823 he fought in Spain, and in 1831 he succeeded Charles Felix. attempted to reform the finances and administration of Piedmont, but was only partially successful. In 1848 he granted a Liheral constitution, and in the same year declared war on Austria, and went to the help of the Milanese. At first successful, he was finally beaten, and on his entrance into Milan was received hadly. He,

in favour of his son and retired to a monastery, where a few months later he died.

Charles Augustus (1757 - 1828), Grand Duke of Saxe-Weimar. His father died before he was one year of age, and the duchy was administered by his mother. The prince received a very careful education, and spent the early part of his youth in travelling. In 1775 he was declared of age, and hegan actually to rule. His reign is noted for the enlightenment of the policy which he adopted. He intro-duced the poet Goethe to the court and to his councils, and although he was a hard

man, this with the s

adopted. His people were not to be governed despotically nor yet benevolently, but were to he so educated principles of strategy which must that they would be capable of governing themselves. This policy speedily made the university of Jena the most

and only child died in 1874. In the an alliance. The revolutionary wars Balkan War which broke out in 1912 found him fighting in the ranks of the active part, but Prussian army, and he fought against the beginning and some some forced him to join the confederation demands for cession of territory. demands for cession of territory.

Charles Albert (1798-1849), King of Sardinia. The son of Prince Charles of so until the end. In 1812 he was in Sardinia. The son of Prince Charles of so until the end. In 1815 he took part in the carry search of the recognition of the rights education. During the early years of the people. His home policy made his life Piedmont was overrun by the Saxe-Weimar one of the few free French, but after 1814 the king of Sardinia restored his court to Turin. ende policy drew down on him the C. A., who was in the direct line of succession was regarded with lugary of other countries as reached with lugary of other countries as reached with lugary of other countries. of other countries, especially of Met by the Royalists on account of his ternich. He granted a liberal constitution to his people, and was one of was, however, recognised as heir the few princes who were not driven apparent. In 1821 a revolution forced by the excesses of the Revolution to a policy of reaction.

Charles Edward. sec STUART,

CHARLES EDWARD. Charles Eugene (1728-93), Duke of Würtemberg, Succeeded in 1737, but did not come of age until 1744. He had good ability, but he wasted his talents in extraorement talents in extravagant and vicious living. He fought against Prussia during the Seven Years' War, a course that was decidedly unpopular in the dnehy. His methods of financial and political administration roused much resent-ment amongst his people, and al-though he was forced to promise reforms, he continued his former practices. His period of rule was continually disturbed by internal troubles.

Charles Louis, Archduke of Austria horroron, continued the chauggle, but and Duke of Teschen, the third son of the Emperor Leopold IL; bethe battle came one of the most distinguished generals of the Napoleonie period. He began his career as a soldier during the revolutionary wars, being at that time stationed in the Netherlands. He commanded a brigade at Jemappes, during the subsequent campaigns proved himself a general of such ability that in 1796, after serving for a year with the army of the Rhine, he was given the chief command of that army. His campaign of 1796 was one of the most brilliant of the whole of the war. He defeated Jourdan twice during the year, and finally drove the French across the Rhlne. He had shown himself a past-master in the art of strategy, with an ability to refrain from too closely following the general theories of strategy, although at a later date he advocated . never be departed from. Although in the following year he found Napoleon more than a match for him, he again Important in Europe. During the showed his consummate skill as a early part of his reign he was driven general in the manner in which he by the Austrian policy into the arms conducted the retreat of his armies. of Prussia, with whom he concluded The campaign of 1799 found him

Charles

armies of the Rhine and again opposed to his old enemy Jourdan. He Ulysse Chevalier, Bio-bibliographie, defeated the French general twice 1904; Baron de Nilinse, Charles during the year, and even tried con-Martel, Histoire des Maires du Palais, during the year, and even tried conelusions successfully with Mossena, and once more he forced the French to retire over the Rhine. After this

paign which preceded Hohonlinden, aud after that battle concluded an armistice with the French. He had by this time become exceedingly popular with his fellow-countrymen, who regarded him as a national hero. 1805 he took up the command of the armies in Italy, but events in Germany soon drew him from Italy, where he had fought the battle of Caldiero and defeated Massena. The peace which followed the disasters of Ulm and Austerlitz was used by the archduke to reorganiso the Austrion forces. In 1809 he again became commander-in-chief of the Austrian army, which he had not yet been able complotely to reform. The struggles of the Austriaus against Napoleon were not altogether unsuccessful, and the victory of Aspern had certainly a good moral result on the rest of Europe. Aspern was followed by Wagram, where the Austrians were totally defeated, although not before they had made a most desperate struggle. This was the last battle in which the archduko took part. Ho lived the rest of his life in retirement, becoming Duke of Saxe-Teschen in 1822. He died in 1847. Charles 'Martel' ('the Hammer')

(c. 690.741 A.n.), natural son of Pepin d'Héristal, mayor of the palace under the later Merovingian kings, grand-father of Charlemagne. In 714 the Austrasian Franks chose him os their Austrasian Franks chose him os their duke: by force of arms he united tho kingdoms of Neustrio and Austrasia, 720, hecoming virtual ruler of tho granks, the titular kings (among Franks, the titular kings (among them Chilperic II. and Clotaire IV.) being merely his puppets. He fought against Saxons, Alemanui, and Bayarians, and rolled back the tide waste as far as Rouen. From 1470 of Maslem conquest.

again in command of the Austrian | Breysig, Jahrbücher d. frank. Reichs, 714-41; die Zeit Karl Martells, 1869;

Charles of Blois (c. 1319-64), Duke of Brittany, sometimes known as Married the Charles of Chatillon. doughter and heiress of Guy of Britdoughter and heress of Guy of Bric-tany. On the death of the latter, the succession of his daughter, Jeonne, wife of C. of B., was disputed. Charles, aided by his uncle Philip VI. of France, was able at first to defeat John of Montfort l'Amaung, who was supported by Edward III. of England. But his success was only transitory. and in 1347 he himself was wounded and taken prisoner. He was only released in 1356, but continued the war, and finally perished at the

war, and finally perished at the battle of Auray. He was noted for the consistent piety of his life, and was canonised by the Roman Church.
Charles of Orleans, see ORLEANS, CHARLES, DUKE OF.
Charles the Bold (1433-77), Duko of Burgundy, son of Phillip the Good.
Boforo the death of his father he boro the title of Count of Charles and the title of Count of Charolals, and during his youth he quickly established a reputation for himself as a general and warrior. In 1465 ho became the practical rulor of the duchy, and adopted at once his policy of opposition to the oims of Louis XI. He succeeded after hard fighting in wresting from Louis XI. by the Treaty of Confians some of the privileges which Louis had gained, and just previous to the death of his father was engaged in subduing a royolt of the townsfolk of Llège, a royolt which was renewed when he succeeded to

C. was engoged upon wider

of Moslem conquest and famous hattle and Poitiers, 732. For defeat of the Saracens he was given his surname, and looked upon as the and aspired to the kingship himself. Saviour of Christendom (see Gibbon). Ho hod added to his territory ond power, but in so doing ho had raised many enemies. Ho had offonded the Saracens out of Burgundy and Languedoc, 737. On his death he left after soveral defeats, ho wos overthe kingdom to his sons, Carloman ond Pepin le Bref.

See Cauer, Dissertatio de Karolo

Martello, 1848; after the hattle. Tho death of C. exl; n

tinguished the male line of the dukes; with the Methodist body. of Burgundy, and with it the grandeur and importance of the duchy. had left an only daughter, Mary, who succeeded to all the dominions of her father out of France. She married the Archduke Maximilian, to whom her father had proposed her, and through whom her Flemish posses-sions descended to the Spanish sions descended to the Sp hranch of the house of Austria.

Charles, Mrs. Elizabeth (1828-96), born at Tavistoek. Devonshire, the daughter of John Rundle. She was the author of many books of a semireligious character, the chief of which, The Chronicles of the Schönberg-Cotta Family, 1864, is about Martin Luther, and has been translated into most of the European languages, into Arabie and many Indian dialects. Others of

New England. Among her friends were Dean Stanley, Charles Kingsley,

were Dean Stanley, Charles Kingsley, Jowett, and Pusey.
Charles, Rev. R. H., M.A., D.Litt., D.D., F.B.A. (b. 1855), theological scholar and writer, born in co. Tyrone, Ireland, and educated at Belfast and Dublin. Ordained in 1883, he has heen successively curate of St. Mark's, Whitechapel, 1833-85; St. Philip's, Kensington, 1885-86; St. Mark's, Kennington, 1886-89; Hibbert lecturer, Oxford, 1898; Jovet lecturer, 1898-99; and professor of Biblical Greek at Trinity College. Dublin, 1898-1906. Among his Dublin, Among 1898-1906. 1896; 1897; The

The Ascen Book of Version of The Greek of the Twe

and various articles in the Encyclopædia Biblica, Ency. Brit., Hasting's Biblical Dictionary. and

Charles, Thomas (1755-1814), Welsh preacher and author. He early eame under the influence of Rees Hugh, a disciple of Griffith Jones, and joined a Methodist society. He met many noted evangelical leaders at Oxford from 1775-84: in the latter year became curate of a charge in Somerset. His opinions made it Massachusetts. It is now, the Established Church, and after 1784 be threw in his lot altogether ing the battle of that namo.

He did much valuable work in the introdnetion of Sunday schools, and the printing and distribution of religious

books in Welsh.

Charleston: 1. Cap. city and seaport of C. co., S. Carolina, U.S.A., standing on a low tongue of land between the Rs. Ashley and Cooper, 7 m. from the Atlantie. The two rivers unite just below the city and form a spacious harbour, about 15 sq. m. in area. Across the entrance is a sandbar with only about 18 ft. of water, but having a deeper channel near Sullivan's Is. By recent improvements, vessels of 24 ft. draught can safely enter. The eity is regularly and bandsomely built, retaining many of the features of old Southern architecture, and having a profusion of trees and gardens. Standing as it does in a rich cotton and rice district, C. has a large trade, and is the chief commercial city of S. Carolina. It is the terminus of the railway lines, and steamships run regularly to and from tho chief ports of the U.S.A., the Antilles, S. America, and Europe. The chief exports are cotton, rice phosphate, naval stores, lumber, and grain. There are machine-shops, ship-yards, dry-docks, and manufactures of cotton, flour, carriages, baggage, textiles, and fertilisers, the last, owing to the large deposits of lime-phosphates found on the Ashley R., being the main industry. C. is the seat of a Catholic bishop. The city was founded by the British under William Sayle about 1670. The Civil War began in 1861 with the eapture by the S. Carolinians of Fort Sumter, Dublin, 1898-1906. Among ms or publications are: The Book of Enoch. on an island 1 m. below the city. It translated from the Ethiopic and suffered terribly in an earthquake in edited 1893; Ethiopic Text of the 1886. Pop. 55,000. 2. Capital of W. Secrets of Enoch, 1895; Apocalypse Kanawha C., on the N. bank of the Germen, translated from the Syriae, 1896; T eentre of a district contain-

minous coal, oil works, iron mines. The manufactures inxes, glass and chemical fire-

lumber, furniture, and goods. Pop. (1906) 13,715.

Grandstown: 1. A fishing village and seaport, 2 m. S.E. of St. Austell, Cornwall, England; has boat-building with a state of the state o ing yards and exports china-clay. Pop. 2800. 2. A town in N.W. of Pop. 2800. Natal, 5000 ft. above sea-level, close to Majnba Hill and Laing's Nek, and until 1895 the terminus of the railway from Durban. 3. Chief town of Nevis Is., Leeward Is., W. Indies. Pop. 1400. 4. Originally a city in the state of Massachusetts. It is now, however, a part of Boston, and contains the Bunker Hill monument commemorat(1816) owing to the political changes. He then studied art under Gros, and was particularly successful in military subjects ('Grenadier de Waterloo, 1817) and sketches of children. See La Combe's Charlet, sa Tie et ses

Lettres, 1858. Charleville: 1. A market tu., 34 m. . of Cork. co. Cork, Ireland; pop. 1970. 2. Tn. in Queensland, the ter-minus of the Western Railway, 430 m. N.W. of Brisbane: pop. 1500. 3. A tn. of Ardennes, France, on R. Meuse, opposite Mezieres. Has manufactures

Pop. 5246.

foun usua

The

farmers, and is difficult to destroy.

Charlotte: 1. The county-seat of Mecklenburg co., N. Carolina. U.S.A. oo. Vermland, 21 m. N.N.W. of on Sugar Creek, in the S.W. of the Arviku, and 3 m. from the Norwegian state. 175 m. S.W. of Raleigh. The frontier. The centre of the ironterminus of several railways, and has manufactures of carriages, cotton mills, machinery, furniture, and cotton-seed oil. A branch mint was Rivanna, 90 m. N.W. of Richmond. established bere in 1837, and the The seat of the Virginia University, Biddle University (for coloured students) in 1872. Dan 1910 1971 1820, which has a fine natural history museum, an observatory and a 2. County to U.S.A., 20 m has carriage f malt works. Lup.

Charles's Wain, see URSA MAJOR. Prince of Wales (afterwards George Charlet, Nicolas Toussaint (1792- IV.), and Caroline of Brunswick. Her 1845), a French designer and painter, parents separated when she was a born in Paris. He served in the few months old, and while she lived National Guard in 1814, but lost his she was a source of contention beemployment as clerk in the 'mairie' tween them. Both father and mother desired to have the custody of her. but while she was growing up George III. decided to entrust her to neither, and she was placed in charge of governesses. She became engaged in Dec. 1813 to William, Hereditary Prince of Orange; but discovering Prince of Orange; but discovering that to marry him would mean residence in Holland, she broke off the match. On May 2, 1816, she married Prince Leopold of Saxe-Coburg, and died in childbirth on Nov. 5 of the following year. There are biographics by Lady Hose Weigall, 1821 and Pearce 1911

opposite Mezieres. Has manufactures are biographies by Lady Rose Weigall, of metal goods, fire arms, and nails, 1874, and Pearce, 1911, and a large trade. The public library is very fine. Pop. 17,928.

Charlestoix, Pierre François Xavier 4 no. 7, 1911, de (1682-1761), a French Jesuit mis- a suburb. It has grown up around the sionary and traveller, born in St. pulnee which Frederick I. built for Quentin; joined the Jesuits. 1698; sophia Charlotte in 1696, and is well taught in their college at Quehec, built and laid out. The palace, with 1705-9: travelled up the Great Lakes its park, in which is the mausoleum and down the Mississippi to New containing monuments to Queen Orleans, 1720-22. Wrote a journal. Louisa, the Emperor Frederick Wilseveral histories, and Historice de la liam III., the Emperor William I., Nowrelle France, 1744.

Charlieu (anct. Carilocus), a tn. of, chief attraction of the town, but Loire, France, near the border of the; there are also a royal institute of department. 10 m. N.E. of Roanne glass-painting, schools of artillery It has manufactures of textiles and engineering, an institute of technology. Tramways run to Berlin. Tramways run to Berlin, pology. Charlock, a species of Crucifera, is with which C. is connected by a road the Sinopis (or Brassica) arcensis leading through the Tiergarten. The chief manufactures are fron ware, machinery, porcelain, glass, paper, leather, chemicals, beer, electric The leather, chemicals, beer, electric a pretty sight in the summer time, appliances, pottery, and stone ware, but the plant is very troublesome to and there are iron foundries and farmers, and is difficult to destroy. machine shops. Pop. 189,290.

museum, an observatory, and a library. Agricultural implements and cigars are manufactured, and there are iron works and wool-mills. Pop.

malt works. Op. 2002.

Charlotte-Amalie, the capital of 12,080.

Charlotte-Amalie, the capital of 12,080.

Charlottetown, the capital of Prince on an excellent harbour on the S. Edward Is.. Canada. It is situated coast. The chief port of the island on the S. side of the island, in Queen's and the seat of the Danish government in the W. Indies. It still possesses a large and safe harbour retains an important trading position. The charlotte Augusta, Princess (1796-Charlotte Augusta, Princess (1796-College of St. United and a normal 1817), was the daughter of George, school. Its manufactures include

woollen goods, lumber, furniture, Crete, and Persia, have only survived malt liquors, and canned goods. It has also shipbuilding and foundry works. Pop. (1901) 12,080.

Charm (through Fr. from Lat. carmen, a song), a form of words, from Lat. generally a verse, which when said or sung is supposed to have power to avert evil or bring good luck. When worn in written form about the person it is called an amulet. The meaning of the term has been extended figuratively to pleasing quali-

INCANTATION and AMULET.
Charmey, in canton of Fribourg,
Switzerland, 15 m. S. of town of Fribourg. A favourite tourist resort, and the centre of the Gruvere cheese

ties of appearance or manner.

industry.

Charmouth, a parisb, vil., and watering-place in W. Dorsetshire, 6 m. S.E. of Axminster. Pop. (1911) 575.

Charnel-house, a place for the deposit of bones thrown up in digging. Sometimes a separate building, but more often a part of the crypt.

Charnock, Job (d. 1693), English founder of Calcutta. Arrived in India about 1655, and entered the East India Company. He refused to move when besieged by the Mogul's vicercy at the village of Sutanati, and finally obtained the grant of the site upon which Calcutta now stands.

Charnwood Forest, a tract in the N.W. of Leieestershire, England. Though a great part of it is barren, the seenery is pretty and it has considerable geological interest. The while lowest elevation is 600 ft., Bardon Hill, the highest point, is 912 ft. It contains coal mines and grauite quarries, and the Whittle Hill hones come from there. It was enclosed by Act of Parliament in 1812.

Charolais, an old dist. of France, which was situated in the S. of Burgundy, and now forms a part of Saônc-ct-Loire. The counts of Charolais took their title from it. The district now is famous for its cattle.

Charolles, a tn. of Saône-et-Loire, France, 27 m. S.W. of Le Crayot. On a neighbouring hill is the ruined castle of the counts of Charolais. Pop. 3343.

Charon, i con of Ereb

the souls of of the lower world. Each shade paid director of the mines in Silesia. He him one obolus, which was placed in the mouth of the dead body before burial.

burial.

Charon of Lampsacus, Greek historian, probably of the early 5th century B.C., and certainly before Herodotus. He is known to have been alivo in 464 B.C. His works, buriets include histories of Lampsacus, which include histories of Lampsacus,

in fragments, which have been edited by Creuzer (Heidelberg, 1806) and by C. and T. Muller (Paris, 1841). He is mentioned by Tertullian and Suidas.

Charondas, a celebrated Greek lawmaker of Catana, Sicily. His date is not known, but the tyrant Anaxilaus of Rhegium. 476 B.c., abolished the laws which were in force. His laws were ndopted by the Chaleidian colonies in Italy and Sicily, but according to Aristotle their chief originality lay in the precise rules against perjury, fines on judges who neglected their duties, etc. The story of his suicide because be broke one of his own laws is also attributed to Diocles and Zaleucus.

Charonne, a former vil. of Seine, France, now forming one of the outlying arrondissements of Paris which have been added to the city since 1860.

Charpentier, Jean de (1786-1855), geologist, horn at Freiberg in Saxony. He was appointed chief engineer of the salt mines at Bex (Vaud, Switzerland) in 1813, but his fame as a geo-logist rests on his book Essai sur les Glaciers, et sur le Terrain Erra-tique du Bassin du Rhône (1841), in which he extended and proved the theory, which had previously been evolved by Venetz, that the blocks on the slopes of the Alps and Jura, although of quito different sorts and periods of rocks, had been brought there by glaclers and left when the glaciers themselves disappeared. His theory of the 'dilatation' of glaciers has since been disproved by J. D. Forbes in his Travels through the Alps of Savoy, 1842. Charpentier, Johann Friedrich Wil-

helm Toussaint von (1738-1805), a German mining engineer, born in Dresden. He studied mathematics and jurisprudence at the university of Leipzig, and subsequently was ap-pointed mathematical professor at the mining school of Freiberg. Here his interest was aroused in mining, which he forthwith made the object of his special study, and became one of the leading metallurgists of the

18th century.

Charpentier, Toussaint von (1779-1847), German mining engineer. He law at Leipzig, but entered sian service in 1802 as mining

1835 he became r. In made a great study of entomology, and the results of his researches are emhodied in Hora Entomologica, 1825; Die austandischen Schmeller-linge, 1830; and Die Europäischen

Schmetterlinge, 1829-39. Charr, or Char, is the name of several species of Salmo, the salmon and trout genus which is typical of

the family Salmonidæ; they differ | Cs. seem to have been made as early from their allies in having teeth on The the head only of the vomer. The deeper parts of fresh-water lakes is their favourite habitation; S. alpinus, the N. charr, is common to England and Switzerland; S. Willughbii is a native of Lake Windermere; and S. fontinalis occurs in N. America.

Charrière. Isabelle Agnes Thuyll, Madame de Saint Hyacinthe (1740-1805), born at Utrecht, Holland; married her brother's tutor Colombier, settled at near and Her Lettres Neuchâte-Lausanne. loises, 1784, made her famous. Her friendship and liaison with Benjamin Constant is her chief claim to remembrance. See P. Godct,

Mme. de Charrière et ses amis, 1906. Charron, Pierre (1541-1603), French philosopher and theologian, born in Paris, the son of a bookseller. He studied law, but his practice as an advocate was unsuccessful and he entered the church, becoming a wellknown preacher and obtaining a weit-known preacher and obtaining the post of preacher in ordinary to Mar-guerite, wife of Henry IV. His friend-sbip with Montaigne is famous. In 1594 he published Les Trois Vérilés, in defence of Catholicism. His great ethical treatise, De La Sagesse, 1601, showed a remarkable change. entirely sceptical and rationalist in principle, and was violently attacked by the Jesuits, and C. was denounced as an atheist. His sudden death from apoplexy was regarded by the ortho-

dox as a judgment for his implety. See Leeky, Rationalism in Europe. Charruas, a tribe of S. American Indians, noted for their warlike propensities. At one time they inhabited Uruguay and part of S. Brazil, and Caushos who pour cocumy that are Gauchos, who now occupy that part, have a strain of Charrua blood in them. They were well-made, darkskinned people, and used horses in their wars with the Spaniards, their weapons being the bolas, or weighted lasso, and bows and arrows. Jnan Diaz de Solis lost his life at their hands, 1516.

Charsadda, a tn. in Peshawar, Pun-jab, India, 14 m. N.W. of Peshawar. It is supposed to be the same as Pushkalavati, which was in existence at the time of Alexander the Great's invasion, and the Penkelnotis mentioned by Greek historians, the adjoining village of Prang no doubt forming part of it. Some interesting cartbenware jars bearing inscriptions bave been found in the neighbourhood. Pop. 9119.

as the 13th century, the invention being variously ascribed to the Italians and to Prince Henry of Portu-The first C. to recogniso the gai. The first C. to recognise the roundness of the earth was produced by Mercator in 1569, and his system was improved by Edward Wright in 1594. Modern Cs. are prepared in Great Britain by the hydrographical department of the Admiralty. They are supplied gratis to the navy and sold to the merchant service through agents. Valuable Cs. of the coasts of the U.S.A. have been published since 1807 by the Coast Survey. Cs. are constructed with the greatest possible accuracy, and the use of recognised symbols admits of the inclusion of considerable detail. Prominent features on land which may serve as landmarks, shore-lines at high and low water, details of tide in harhours, the proper courses for entering ports and channels, and the buoys marking them, etc., are shown. Signal stations and lights receive detailed attention, lights being shown by a yellow circle surrounding a red dot, with abbreviations describing whether the light is fixed, flashing, or revolving. Deep-water soundings are given in fathoms, and shallow-water soundings in feet. The character of the sea-bottom is also indicated, and sand-hanks, bars, rocks, hidden, awash, or protruding, currents, and sunken wrecks are clearly shown. Lines of latitude and longitude are drawn in, and several compass-roses, showing magnetie variation, appear on different parts of the C. The Mercator projection is generally used, but polyconic Cs. arc issued of small areas, and the gnomic projection is used for mariners wishing to follow great-eircle courses.

Charte, a charter or system of constitutional law, contained in a single document. The Grande C., or the Charter of King John, 1355, was the first such document known in France. first such document known in France. The constitution to which the name C. was the most often given was the one in which Louis XVIII. acknowledged the rights of his subjects upon his restoration to the throne, 1814. Since that time this C. has been held as the fundamental law of constitutional management whenever that purious laws of the constitutional management whenever that purtional monarchy, whenever that par-ticular form of govornment has

existed in France.

Charter (Lat. charta: Gk. χάρτης, o usual im-

any formal contract, or

agreement botween persons. In Eng-Chart, or Sea-Chart, a marine land we no longer use the word to map, showing the coasts, islands, lighthouses, and ships, soundings, tourrents, etc., of a part of the sea, compiled for the use of navigators.

documents given by the former owner | as a proof of the transference heing called a C. In public affairs, it is the name given to the deeds hy which those in power guarantee the rights of their subjects. There may be also a C. of a bank, or some other associa-tion, whereby it may confer privileges and powers on a body of persons for some particular object. In Scot-land, a C. is the written evidence of a grant of heritable property, under certain conditions enforced by the feudal law, i.e. that the person receiving shall pay at stated times a sum of money, or perform certain duties to the person conferring the property.

Chartered Companies. The common element in C. C. at all stages of their development is the possession of a special charter from the control of the contro a particular in the appears to be three tolerably well marked phases in the development of C. C., the final if unintended or unavowed cause of which, judged by the light of later experience, is the foundation of a colonial empire. C. C. appear, firstly, as associations of individuals, eman-

later companies was a consequence of the impulse given to foreign trade hy the discovery of the New World and the opening out of trading routes to the Indies and America, and the object of their formation was to foster commercial intercourse with distant countries. The Russia Company, the Turkey Company, and the Eastland Company developed such relations with Russia, Turkey, and Persia. But the more important were the Hudson Bay Company, and a number of other C. that opened up the British North American colonies, and the famous East India Company. The famous East India Company. significance of these companies lies in the part they played in the building np of the foundations of the British colonial empire through their acquisition of territory either by the process of planting and settling in unoccupied regions or by conquest or cession of occupied land, as in tho case of India. Thirdly, as purely jointstock companies possessing no dele-gated sovereign powers, and trading under the direct control of the British government. This phase of their development, or rather revival,

was the expression of the desire for colonial expansion and commercial prosperity universally prevalent among the European nations towards almong the European nations to all as the end of the 19th century. The principal English C. C. formed during this period were the Royal Niger Company, chartered in 1886 and hought out by the government in 1899 for £865,000; the Imperial British East Africa Company formed in 1889 to exploit Uganda and neighbouring districts, and which fell into financial straits in 1892, with the result that Uganda hecame a British protectorate some two years later; the British South Africa Company, chartered in 1889, and owing its origin to the activities of Ceeil Rhodes, who secured various mining concessions from Matabele chiefs; and the British North Borneo Company, incorporated in 1881 to take over the concessions and territory acquired from the Sultan by a syndicate formed in Lahuan in 1878. Some of the C. C. of the latter two phases still exist as companies, but in most cases they have been merely a step, though an important one, in the transition from exploitation to colonial expansion. and their rights and treaties have for the most part been brought out by the erown. The greater degree of ating from early trading guilds, and the crown. The greater degree of enjoying a monopoly of trade in the success in this direction of the later exportation of English products to companies was due to their more other European nations. Secondly, as conomic organisation, their control of a larger capital, enjoyment of better cre by the I view to

monopoly in trading rights.

native ru

Charterhouse, a corruption of Chartreuse, a religious house of the Carthusian order. In several places in England the name occurs, such as C. on Mendip, C. Hinton, thus denot-ing where the Carthusians established The most themsolves in the past. The most colobrated is the C., London. In 1371 Sir Walter do Manny founded a Carthusian monastery by the old city wall of London. Upon the dissolution of the monasteries in the time of Honry VIII., the property passed through many hands, until in 1611, it was bought by one Thomas Sutton, 1532-1611, a native of Snaith, Lin-colnshire. The same year of his death he founded a hospital on the site of the monastery, and in his will bequeathed moneys with which to found a chapel, almshouse, and a school. The almshouses provide for school. The almshouses provide for eighty inmates, who must be over fifty years of age, and according to the founder's wish, gentlemen by descent and in poverty, soldiers who have earried arms over sea and land, merchants whose livelihood was destroyed by shipwreek, or other mis-fortune, or servants in the royal household.' The school ranks among one of the foremost of the public schools, and has by now far outgrown the original intentions of the founder. In 1872 it was removed to Gouanna and the old buildings were sold for Thomas Ros in 1640. He was made the accommodation of the Merchant secretary to the dauphin, afterwards Taylors' School. The quaint old Charles VII. In 1422 he wrote his treetif, describing the neonle of In 1872 it was removed to Godalming chapel and hospital still remain on the old site.

Charteris, Archibald Hamilton (1835-1908), a Scottish clergymau and patriotism to biblical writer, born at Wamphray. By his cloquence and patriotism he He studied in Edinburgh, Tübingen, cheered his country men with the and Bonn, and in 1863 became minister of the Park Parish in Glasgow. He was appointed professor of biblical criticism at the Edinburgh University, 1868-98; royal chaplain, University, 1808-98; royal enaplain, 1869; chaplain in ordinary to the king in Scotland, 1901. Author of A Life of Professor James Robertson, 1863; Canonicity, 1881, etc.
Charter-party (Fr. charte-partic,

divided deed, one given to each party concerned), in maritime law a contract by which the owner or master of a ship lets the ship or part of her to a second party for the purpose of con-veyinggoods from one port to another. It is one form of the contract of 'affreightment,' the other heing the 'hill of lading' (used when the goods shipped form only part of the in-tended cargo). A C, may be a lease of the vessel (the charterer then assuming entire charge, while the master is only his agent), but more often it merely gives the shipper permission to have his cargo chartered vessel,

ing the responsibilit carrier.' Usually the C. describes the contracting parties, the ship, and the voyage. The shipowners state that she is seaworthy, will take the eargo at a certain charge, and make the voyage as quickly as possible, delivering the eargo within a fixed time. The freighter agrees to load and un-

> · Serutas ex-I Bills

Chartier, Alain (e. 1392-1430), French poet and satirist, born at Bayeux, studied at the university of Paris. His first poem, written after the battle of Agineourt, was Livre des quatre dames; his Belle Dame sans Merei was translated into English by Sir Thomas Ros in 1640. He was made

the people or

belief that the cause of France was not lost. The story of the kiss given to him by Margaret of Scotland for his poems is a fable. His satire on the court, Le Curial, was translated by Caxton, 1484. He attacked the vices of the clerry in Livre d'Expérance, 1429, and his Bréviaire des nobles was studied by the youthful members of every noble household. His influence on Clement Marot, John Lydgate, and

others was great. Chartists, the name given to a body of political reformers (largely working men), who sprang up in England about 1838. Discontent and disappointment were felt among the workers of Britain after Grey's reforms and the hill of 1832, resulting in the movement known as 'Charting' in th tism,' from the document or charter in which the agitators presented their demands publiely. In 1838 six mem-bers of the House of Commons held a

es of the and to-People's ifferings classes. rsal suf-

frage (of men), (2) abolition of the property qualification for a seat in parliament, (3) annual parliaments. (4) equal representation, (5) payment of members of parliament, (6) vote by ballot. O'Connell was a noted char-The freighter agrees to load and un-load within a certain number of 'lay' or 'running-days.' The rate and time of payment for the freightage, and Lovett, Earnest Jones, Thomas date of the beginning of demurrage Cooper, and Vincent. The Northern are also stated. The contract may be for a definite time, or for definite yoyages. Perils of the sea for which

of the agitation st degree. Memsection favoured

Charters Towers, a mining tn., Devonport co.. Queensland, Australia, 82 m. S.W. of Townsville. It is the centre of a famous gold-field, the gold being of very fine quality. An cxeellent water supply is available the Burdekine river. Pop. 5600.

cessions made in retorm bills. See Carlyle on Charlism; Gammage, History of the Charlist Movement, 1894; M'Carthy, History of our own Times; Life of Thomas Cooper; an Autobiography, 1880; Kingsley, Allon Locke, 1856; Political History of England, xii., 1907.
Chartres, the cap. of the dept. of Eure-et-Loir, 55 m. S.W. of Paris, and situated on the l. b. of the Eure-The town is divided into two parts— Gammage, Somerset. The town is divided into two parts—
upper and lower—which are connected by very steep roadways. It is
famed for its fine cathedral, Notre
Dame, founded in the by Bishop Fulbert, and some opinions, it is the church in France. noted for their beauty and perfect from nature.

Proportion; the one, 351 ft. high, dates from the 12th century; the American lawyer and statesman, born other, 377 ft., and of a far richer at Cornish, New Hampshire. In 1830 design, was not finished until the 16th century. The town is a seat of a great reputation as course for a higher a course of the second of the a bishop, a court of assizes, and

sesses a chamber of commerce, ing colleges, a communal colleg market, which is held once a week, is one of the largest in France. The party. He was the first Republican industries are chiefly flour-milling, governor of Ohio, which position he brewing, distilling, iron-founding, held from 1855-59, but was unsuccess-leather-manufacture, dyeing, making ful as Republican conditate in the leather-manufacture, dycing, making of stained glass and hoslery. In 858 C. was burnt by the Romans, and in 911 unsuccessfully attacked by them. In 1417 it fell into the hands of the English, who lost it again in 1432. In 1501 it was taken by Henry IV., who was crowned there in 1594. In the Franco-German War it was taken by the Gowana and Janier that the the Germans, and during that time it was an important centre of opera-

Plan of Reform, 1776, and the Duke Carthusian monastery, founded in of Richmond's Bill, 1780, known as the year 1084 by St. Bruno. It is the People's Rights' measure. The situated in a wild, picturesque valley struggle of the C. may be divided into in the French department of Isère, two periods—1836-39, aiming merely about 13 m. N. of Grenoble. Its at industrial amelioration, and 1840-43, taking on rather the nature of a ing village called Cartusia, now known socialistic revolution. The second as St. Pierre de Chartreuse. The period was more important for this original monastery was founded bevery socialistic character. The C. re- tween the years 1132-37, but that of fused to support the Anti-Corn Law to-day dates only from 1676, the one classes. Disturbances were most frequent in the N. Finally a great formerly the priors of other monasternous was announced to be tries in France, Burgundy, Germany, held on Francis Courtes for the priors of the monasternous formerly the priors of other monasternous formerly the prior of the priors of other monasternous formerly the prior of th held on Kennington Common. Gov- and Italy, used to be entertained ernment forbade the procession, and The chapel dates from the 15th cenernment forbade the procession, and | The chapel dates from the 15th cenWellington posted troops to guard tury, but the cloisters, with their
the city, special constables being also | thirty-six houses, which were built
enrolled, among them being Louis
Bonaparte (Emperor Napoleon III.) | date. The monks are famed throughAs a party the C. disappeared after out the world for their manufac1849, the movement declining partly ture of the celebrated liqueur. In
owing to improved conditions of 1181 a Carthusian monk named St.
labour, partly to the legislative conlessions made in reform bills. See | land and founded a monastery in
Carlyle on Chartism: Gammage. Somerset.

Chartulary, or Cartulary, a collec-tion of charters, particularly the registers, documents, deeds of title. records, etc., of a monastery; also used of the muniments of other corporations. Bound volumes containing duplicate copies of the documents are in existence. A modern printed and edited edition of such documents

also go by the name. Charybdis, see SCYLLA. Chase, John (1810-79), an English water-colour painter, born in London, was a pupil of Constable. One of his -.. n works is of the interior of ter Abbey. He wrote on painting and sketching

whose cause he ld. On account very he left the

presidential election of 1860. 1861-61 he was secretary of the treasury, managing the country's finances with the greatest ability and credit during the years of the Civil War. The establishment of a national banking system and the issue of treasury notes anno-German War it was taken by "greenbacks") were two of his most e Germans, and during that time it is an important centre of operations.

Chartreuse, La Grande, formerly a C

of S. P. Chase, 1874. Chase, William Merritt (b. 1849), American painter, born at Franklin, Indiana. He was a pupil of B. F. Hays of Indianapolis and of J. F. Eaton in New York, and later of Piloty and A. Wagner in Munich. He tanght painting in New York for some years. He is a most successful por-trait painter; his pictures of Whistler, the painter Davenrik, General Webb, etc., heing well known. He was president of the Society of American Artists.

Chasidim, see ASSIDIANS.
Chasing (Rom. exlatura; It. cese-latura; Ger. ciselirung; Fr. ciselure), signifying 'chiselling.' The art of producing figures and various ornaproducing figures and various of the mental designs, which can be either raised or hollowed on metallic surraised implements. It is employed chiefly for the ornamentation of goldsmith and silversmith articles, electro-plate, etc., being used to create flutings and bosses; it is also used to imitate engraved sur-Very delicate results may be laces, very deneate results may be achieved by this method, the most perfect examples of which may be seen in the chasing on the watch-cases by Mr. G. M. Moser, 1704-83. The worker first outlines the design on the surface he wishes to ornament; then, should hold and high emboss-ments be the desired effect, these are hlocked out by a process called 'snarling.' The snarling iron is a long iron tool turned up at the end, and m a vice, the end that is turned up French. He was named by his can easily reach and press against soldiers 'General Bayonet,' from any part of the inside of the article that is to be chased. The part of tho attack.

The part of the article to be embossed is ledd firmly against the upturned end of the snarling iron, then a strong hlow is given by the worker at the opposite and was a mechanic in the governend of the iron, with the result that the sudden stroke that is needed to have defence against the was named by his education to that weapon in that weapon in the point touching the object gives it the sudden stroke that is needed to have defence against the was named by his edvertion to that weapon in the was named by his devotion to that weapon in the was named by his edvertion to that weapon in the was named by his edvertion to that weapon in the was named by his edvertion to that weapon in the was named by his edvertion to that weapon in the was porn at Muzzig, and was a mechanic in the government of the individual to the was named by his edvertion to that weapon in the was born at Muzzig, and was a mechanic in the government of the individual to the was named by his edvertion to that weapon in the was born at Muzzig, and was a mechanic in the government of the individual to the was named by his edvertion to that weapon in the was porn at Muzzig. made so that when it is securely fixed in a vice, the end that is turned up the sudden stroke that is needed to throw up the surface of the metal just where it meets the tool. When the blocking out process from the iu-terior is accomplished, or when the terior is accompassion, or the superiores of chasing, instead of embossing, is required, the object to be chased is filled with molten pitch, which is allowed to harden. When this has taken place, it is then fastened to a sand bag, and all the details of the design—lined, smooth, or rough—are worked out by a hammer, and several small punches of varying outlines

Chasles, Michel (1793-1880), a Fr.

See A. B. was professor at the Ecole Polytech-Andrew Johnson, 1868. See A. B. was professor at the Ecole Polytech-Hart's Salmon Portland Chase in the Inique and later at the Sorbonne. He American Statesmen series, and received the Copley medal from the Schmucker's Life and Public Services Royal Society, 1863. In 1867 he made a report on the forged letters of Pascal to the academy, being with others the victim of Trèus Lucas. In his chief work, Apercu historique, etc., 1837, he gives a brilliant account of the progress in modern times of geometrical methods. Other works are: Trailé de géométrie supérieure, 1852; Trailé des sections coniques 1865, etc.

Chasles, Victor Euphemien Phila-rete (1798-1873), a French writer and critic, born at Mainvilliers. His father was a member of the National Convention, and voted for the death of Louis XVI. C. was brought uplin accordance with Rousseau's theory accordance with Rousseau's theory in Emile, and learned the printing trade. He was imprisoned for his share in a Jacohin plot, 1815, and on his release went to England, where he worked for Valpy the printer and published critical articles in the reviews. On his return to France he did much in introducing English Pussion much inintroducing English, Russian, and Scandinavian literature. He was made librarian of the Bibliothèque Mazarin, and died at Venice. Some of his voluminous literary and criti-cal works are published in *Trente* Ans de Critique, twenty volumes of studies in comparative literature, 1846-75.

Chassé, David Hendrik, Baron (1765-1849), a Dutch general. He served with the French army after 1793 and during the Peninsular War; in 1815 with the Dutch at Waterloo. In 1830 he was governor of Antwerp and con-

ment arsenal. The Chassepot was a breech-loading rifle, calibre '433 in., muzzle velocity 1328 f.s., sighted to 1200 metres. It was adopted by the French army, 1866, and was most successful in the Franco-Italian War. successful in the Franco-Lunan war. 1867. The Prussian needle gun was matched against the Chassepot in the war of 1870. The Gras rifle replaced the Chassepot in 1874. The inventor received the Cross of the Legion of Honour.

Chassériau, Théodore French painter, born in the W. Indies. He was a pupil of Ingres, and subsequently studied in Rome. He was influenced by Delaroche. His Tepi-darium at Pompeii 'is in the Louvre. mathematician, horn at Epernon, His frescoes at the Cour des Comptes, commune. He was well known as a

portrait painter.

Chasseurs (Fr. for 'huntsmen,' ef. Ger. jäger). In the 18th eentury the name was given to soldiers who formed a light company of skir-misbers attached to a regiment; in the modern French army it is used of a class of light regiments capable of rapid movement. They are both mounted (chasseurs à cheval) and on foot (chasseurs à pied). The 'Chasseurs d'Afrique, 'first organised in 1831 and stationed in Algeria, are famous and stationed in Algeria, are tamous for their speed and endurance, and for their Arab horses. The 'Chasseurs' Alpine' are regiments of infantry, stationed on the S.E. frontier of France, and are trained to cover 371 m of mountain ground in a day in full marching order. In the seven months of snow they are trained to use 'ski' and snow shoes.

Chastelard, Pierre de Boscosel de (1540-63), a French poet, born in Dauphiné. He was a deseendant of the family of the Chevalier Bayard, and became a page in the household of the Constable Montmorency and of Marshal Damville. In 1561 he accompanied tho latter to Scotland in the suite of Mary Oneen of Scots, with paties of Mary Queen of Scots, with whom he fell violently in love. He came a second time to Scotland with Ronsard's poem, Les Regrets, and recommendations from Montmorency. Entering the queen's service between the second vice, he wrote passionate poems to her, and if she did not encourage him, she at least accepted his verses. He was found under ber hed by her maids of honour, hut was forgiven. A second offence was unpardonable, and he was According to Brantôme he went to his death reciting Ronsard's hymn to death. His last words, addressed to the queen in Holyrood, Adieu, toi si helle ct si cruelle, qui me tues et qui jc ne pnis cesser d'aimer, bave often been quoted.

Chastellux, François Jean (1734-88), French author and general, born in Paris. He served with honour during the Seven Years' War, and fought in the American War of Independence. His best known works were: De la felicité publique, 1772, and Voyages dans l'Amérique Septentrionale, 1764.

Chasuble, an eecles. vestment, worn by hishops and priests of the Roman Church during the celebration of mass, formally known as planeta. Originally the C. fell bolow the knees; it became gradually modified till in the 16th century it reached its present form, that of a sleeveless vestment, open at the sides and covering the chest and back. Tho C. was formerly plain, but it is now frequently embroidered and adorned

Paris, were partly ruined in the Paris | 'orphreys.' It must be of silk. exquisite example, of 16th century Italian work, may he seen in the Vietoria and Albert Museum, Sonth Kensington. The C, owes its origin to the Roman pænula, a eloak worn by both sexes and all classes. Though specially a clerical garment it had no special significance in early church use, and it was first definitely reserved as a eucharistic vestment in the 11th century, and was formally assigned to the celcbrating priest in the 13th century, as the special mass vestment. The C. was abolished in the English Cburch after the Reformation with the other vestments.

Chat, a popular name for birds helonging to the genera Saxicola and Pralincola, both of which are included in the Turdide, or thrush family. S. cananthe, the wheatear, P. rubicola, the stonechat. and P. rubetra, the whinchat, are all birds to which the term is applied. They are lively, insectivorous creatures, dwelling in northern lands and nesting in stony places.

m stony places.
Chata, or Pierocles alchala, a representative member of the Pteroclidae, or sand-grouse family. It is
a desert bird living in S. Europe,
Africa, and Asia, and is considered to

be good eating.

Chatalja. a prov. and tn. of European Turkey. The town is 25 m. N.W. by W. of Constantinople. To the eastward are the Heights of Chatalia, upon which are extensive fortifications. C. was the seene of much sanguinary fighting between the Bulgarian and Turkish forces in the Balkan War (q.v.) of 1912 and 1913. Here, too, during November occurred the heavy mortality from cholera among the Turkish troops. This outbreak commenced about Nov. 7, and during the height of the epidemic ahout 1000 fresh cases were reported each day. It was also at C. that the pourparlers took place which the eastward are the Heights of that the pour parlers took place which led up to the truce in the war. The delegates of the Balkan allies and Turkey first met on Nov. 25, and on Dec. 3 all the parties, with the exception of Greece, signed the armistice. During this armistice, which lasted till the cnd of January 1913, the delegates of the belligerent countries met in London.

Château, the Fr. word (from Lat. castellum, fortress) for a castle (a.v.). During the late 15th and 15th centuries, when houses began to be huilt for residence only and not as castles for defensive purposes, the term hecame applied to all large country houses. The fortified castlo ently was termed château fort, and the with residence château de plaisance; the

Châteaubriand, François Rene. Châteaudun, a picturesque tn. in Vicomte de (1768-1848), the principal the dept. of Eure-et-Loir, France. The French writer under the First Empire, principal trade is in grain, wool, married immediately on his return, The most celebrated building in the and then joined the ranks of the town is the chatcau, built hy Jean, 'emigrants.' After being wounded Count of Dunois. Pop. 5800. 'emigrants.' After being wounded Count of Dunois. Pop. 5800, at the siege of Thionville, he visited Château-Gonthier, a town, England who a livelihood

In 1797 he brique, politique et moral sur les possesses chalybeate springs not far révolutions anciennes et modernes, etc., from the town. Trade is carried on a confused work marked by much by wool and cotton spinning, and the ill-digested learning. It is of oil, flannel, and serge, and despairing, and its an agricultural market.

In 1801, Atala, an episode detached this centre a newer quarter has now from the greater work, was published. It showed a new, daring, and hrilliant profession a castle built in the 10th century by writer, a reformer both in prose and Raoul, Prince of Déols. This castle, in poetry. In 1802 appeared Le Génie called Château Raoul, with the du Christianisme. The writer does not attempt directly to prove that is beautiful, and that it is capable of inspiring far higher poetry than is the pagan mythology. His romanticism appears in a more concentrated cism appears in a more concentrated form in René, another episode detached from the main work. On his tached from the main work. On his tached from the main work. On his tached from the france, C. received an appointment under Napoleon, and by Napoleon in 1814. Its industries in 1809 published Les Martyres, which are the making of musical and matheorem the or the foliation of the Genic du matical instruments, and trade is Christianisme cast in an objective form. Two years later he published L'Hinéraire de Paris à Jérusalem, after a pilgrimage to the latter town. C. is, with Mme. de Stael, the leader of the Romantie movement of the early 19th century. He reformed early 19th century. He reformed poetry, history, the novel, and in addition to this he was one of the greatest masters of French prose. See Sainte-Beuve, Chaleaubriand el son groupe lilléraire sons l'Empire. Paris, 1860; E. Faguet, Le XIX. Siècle, Paris, 1881.

Chateaubriant, a tn. in the dept. of Loire-Inférieure, France, situated on the R. Chère. It is a centre of importance on the Ouest-Etat railway, and

latter often retained some, at least, l'enthièvre, parts of which are still of the architectural features, tourelles, in existence. It is the seat of a sub-etc., of the medieval eastle of prefect, and possesses a tribunal of first instance. Pop. 6000.

Châteaudun, a picturesque tn. in

receive the regiment of Navarre. In the regiment of Navarre and the regiment of Navarre. In the regiment of Navarre. In the regiment of Navarre. In the regiment of Navarre in the regiment of Navarre. In the regiment of Navarre to America, but was recalled by the stitutions there is a tribunal of first news of the arrest of Louis XVI. He instance, also a communal college, married immediately on his return. The most celebrated building in the

> Château-Gonthier, a town, dept. Mayenne, France. Its origin is said to he owing to a castle built by Gunther in the 11th century. It

and despairing, and its
easiness prepares one for
version which the deaths of his
mother and sister brought about. dept. of Indre, and situated on the
This conversion led to his great
applogy for Christianity in poetry.
In 1801, Alala, an episode detached
this centre a newer quarter has now

still stands in ned after him.

matical instruments, and trade is carried on extensively in the white wine of the country, also in cattle, sheep, and agricultural products. Pop. 6800.

Chatel, Ferdinand Toussaint Francois (1795-1857), born at Gannat, Allier. He was a religious reformer and separated from the Catholic Church, founding a new communion. the Gallic Church. He denounced celibacy and private confession, and wrote many religious essays.

Chatelaine, the French term for the mistress of a castle; she carried the keys of the eastle suspended from her girdle, and thus the term is used of a collection of small chains with useful small articles, such as keys, penknife, seissors, thimble, etc., and penknife, seissors, thimble, etc., on attached to the ends, fitted with a elasp and worn at the belt.

Chatelet, a tn., Hainault, Belgium,

d in t of on R. Sambro. It is a mining centre. the deep channel of the river was Pop. 12,105.

Châtelet, Le Grand, an old fortress on the r. b. of the Seinc in Paris, on the site now occupied by the Place du Châtelet. The first mention of it du Chatelet. The litst mention of it is in a charter of Louis lo Jeune, 1147. It was the efty prison in the time of the Renaissance, and a court of justice, but was destroyed in 1802. Châtelet, Le Petit, a smaller fortress on the opposite bank of the river, also used as a prison and destroyed in 1782. Châtelet Joycut Gabriels Freight Provider F

took up his ahode with her at the Château of Cirey in 1735. Many accounts of the life at Cirey have been written, the best known being those of Madame do Grafigny, who eredits the fair Emelic with a very bed towns and the contract of the bad temper and describes her quarrels with Voltaire with considerable humour. She seems to have thred of ed her officer

She published soveral works and translations, and in conjunction with Voltaire wrote a treatise on the Nowtonian system.

Chatelineau, a tn., Hainault, Bel-rium, situated on the river Sambre, 27 m. E. of Mons; it is a mlning town with big coal fields and iron works.

Pop. 13,154.

Châtellerault, a tn. in the French dept. of Vlenne, 40 m. S. of Tours. It is not of much interest, the principal industry being the manufacture of cutlery; it has also a government small-arms factory. A fine stone bridge connects the town with a suburb on the other side of the river. Pop. 15,000.

Chatham (A.-S. Cetcham), a parliamentary and municipal river-port town in Kent, stuated on the r. b. of cornet in Lord Cobham's Horse. Four the Medway, and joined on the W. years later be entered parliament as side by Rochester, and the E. by Gillingham. The town possesses very

ilitary forti-It is one

centres in England, the length of the dockyards being nearly two miles, which contain several building slips grooms of the bedehamher. Pitt and wet docks, the latter capable of soon took an active part in the holding tho largest ships. In the middle agos C. was merely a suour of Rochester, but Henry VIII., two one the foundation of whom we owe the foundation of

made use of by Elizabeth, who built a dockyard and an arscnal here. The defences of C. constitute a fortification of great strength, and are a great protection to London should invaders succeed in landing on the S. coast, in order to march on the capital. Fort Pitt, rising above the town to the W., built in 1779, is utilised as the general military hospital. There is a large convict estabon the opposite bank of the river, also used as a prison and destroyed in 1782. Iishment; also an almshouse built in Châtelet-Lomont, Gabrielle Emelie le Tonnelier de Breteuil, Marquise du (1706-49), born in Paris. She was the days been entirely re-built. At one brautiful daughter of the Baron de time traces of old Roman remains Breteuil, and married tho Marquis du C. in 1725. Her fame is due to weapons, Roman brieks, and tiles: also human remains. The modern tracted by her eleverness and beauty, elurch of St. Mary's, opened in 1903, took un his shode with her at the stands on the site of an old Saxon stands on the site of an old Saxon ehurch. There is also St. Bartholo-mew's Chapel, which was formerly mews Chapet, which was formerly attached to the hospital for leners, one of the first founded in England, by Gundulph. bishop of Rochester, 1070, partly of Norman architecture. In 1905 King Edward VII. unvoiced a memorial arch in memory of the Royal Engineers who fell in the South African War. Pop. (1911)

42,250. Chatham, also called Miramichi, a tn. in Northumberland co., New Brunswick, Canada, a port on the Miramlchi R., 24 m. from its mouth. Extensive fisheries are carried or also a trade in lumber. Pop. 5000. Chatham, capital of Kent co

Ontario, Canada, a port situated on the Thames R., 64 m. S.W. of London, connected with Detroit and the cities on Lakes Huron and Eric Fruit ls by a steamboat service. grown there, and exported. It possesses a waggon factory and flour mills, and manufactures fanning

mills, engines, etc. Pop. 9068.
Chatham, William Pitt, first Earl of (1708-78), statesman, was educated at Eton and Trinity College, Cam-bridge, and early in 1731 was gazetted cornet in Lord Cohham's Horse. Four

regular navy, established dockyards, and the natural harbour formed by which blocked his progress for a long

time. Under Pelham he was appointed early in 1746 joint Vice-treasurer of Ireland, hut in May of the same year he was promoted to the position of Paymaster-General of ithe Forces. This was the most lucrative office in the ministry, owing to the numerous and valuable perquisites attaching thereto; but Pitt, to his great credit, declined to accept anything but the actual salary. On Pclham's death, Pitt hoped to lead the House of Commons, and, dis-

of Newcastle. He was dismissed late in 1755, but a year later he was invited to form an administration. In April 1757, dismissed by the king, ven stronger

a few weeks, held office

ership of the Duke of Newcastle) until October 1761. It was during this period that he was able to give the fullest proofs of his ability as a war minister, for he had returned with full powers to direct the war and to take charge of foreign affairs. He declined office in 1763, but continued to take as active a part in debate as his health would allow. When Rockingham was dismissed in July 1766, Pitt was invited to form another administration, but he was not well enough to do more than take the sineeure office of Lord Privy Seal in his own ministry. This necessitated his accepting a peeragea step that made him for a time very unpopular. The city especially re-sented the Great Commoner he-coming the Earl of C., and actually cancelled a banquet that was to have cancened a banquet that was to have of tern and flax. been given in his honour. His health now completely gave way, and he dept. of Côte d'Or, France, situated resigned the office of Prime Minister on both banks of the Seine. The info Doc. 1767 to the Duke of Grafton, dustries consist of hrewing and ironholding, however, that of Lord Privy founding, and trade is chiefly in Seal until the October of the following year. He was taken ill while making many old houses of interest in the a vigorous speech in the House of town. Pop. 4500. Lords against the acknowledgment Chapter American independence Albeit has chica

of American independence reliable has between had never approved the war and Liverpool, and 7,1778. He died at Hayes c and was huried in Westminster Abbey of the finest feats of engineering on June 9. C. Stephenson figures among I he stands for a greatest parliamentary orators of been made to drain it, works being this or any other country. His popularity throughout the kingdom was in lenownous, and it was due not more 182 enormous, and it was due not more to a general appreciation of his abilities than to his fearlessness and his Chatou,

 Chatham Chest, a charitable fund originated by Sir Francis Drake and Sir John Hawkins in 1588 to assist siek and wounded seamen. It takes its name from the money having heen placed in a chest kept at Chatham that had five locks, the keys of which were held by the officers who had charge of it. Four supervisors and seven directors were appointed to look after the accounts, which had to be placed hefore parliament every year. Twelve acres of land were assigned to the charity hy Charles II., and the fines imposed by the courts martial were also handed over to it in 1688. In 1802 the chest was moved to Greenwich and the fund in-corporated with Greenwich Hospital; up till 1829 a considerable part of the money was raised by deductions from scamen's pay.

Chatham Islands, a small group of islands, including some rocky islets, in the Pacific Ocean, lying 360 m. E. of New Zcaland, to which they belong. These islands were discovered in 1791 by Lieut. W. R. Broughton, who named them after the boat which he was commanding at the time of the discovery. The natives were called Majorioris, and their dress consisted of sealskins or mats. In 1831 they were conquered by 800 Maoris from New Zealand, and in 1849 there wero only ninety survivors out of a total population of 1200, the race being therefore all but exterminated. The chief export of the Islands is wool, and the industries represent cattle and sheep-hreeding, and seal-fishing. The climate is colder than that of New Zealand, while the soil is extermely fertile, with luxuriant growth of fern and flax. was commanding at the time of the of fern and flax.

Chat Moss, a peat bog in Lanca-

is now Chatou, a tn. of France in the dopt.

well-deserved reputation for integrity of Scince-to-lise and the arron, of and self-disinterestedness. There are Versalles, on the river Scinc. It is biographies by Francis Thackeray, 3 m. E. of Saint Germain, and 8 m. 1827, and Albert von Ruville, 1905.

India, in the dist. of Hazarybangh. property, and descends as such on

Chatswood, tn., New South Wales, Anstralia. It lies about 5 m. N.W. of Sydney and is a good residential

of the Dukes of Devonshire. The reference to original Chatsworth House was built by Sir William Cavendish in 1537. Chatterer, i and it was in this building that Mary that has been Queen of Scots was imprisoned under the care of the Earl of Shrewsbury.
Later it was pulled down and the present house was built in 1688 by William first Duke of Devonshire. It is a quadrangular building with an open contraval in the senter and open courtyard in the centre, and lonle in style, standing on the left bank of the river Derwent about 21 m. from Bakewell. The magnifibank of the river Derwent about ministrative country of the Isle of Ely. 21 m. from Bakewell. The magnification of the result of the same cent gardens with the vast concentration of ministrative country of the Isle of Ely. The town possesses breweries, and cent gardens with the vast concentration of the servatory and mannerous fountains of a Benedictine convent of the 10th were designed by Sir Joseph Paxton. The house contains priceless collections of pictures and estatume and the servatory an tions of pictures and statuary, and some very beautiful wood carving.
Chattahoochee, a river in Georgia.

U.S.A., forming part of the boundary on the west, and joining the Flint, after which it becomes the Appalachicola. It is navigable for about 200 m., up to Columbus, the total length being 500 m.

Chattanooga, the cap. of Hamilton co., Tennessee, U.S.A., on the Tennessee R. It is important as a commercial and railway centre, doing a large trade in lumber, grain, and coal, and manufacturing iron, steel, machinery, etc. It is famous for the battle fought there during the American Civil War, which consisted of a series of engagements, including that of Lookout Mt., known as the battle above the clouds, and that of Missionary Ridge, when the Federals under Grant defcated the confederates under Bragg, Nov. 23: to 25, 1863. The national cometery to the E. of the eity contains the graves of over 13,000 Federal soldiers. The city contains some fine buildings, and possesses a mives buildings, and possesses a university known until June 1907 as the Grant University, comprising schools of law, medicine, and theology. Pop. 34,297. Chattel-interest (also Chattel-real), nlaw denotes any interest in heritable land less than a feechal actata.

land less than a freehold estate. A lease is said to be a C. in real pro-

Chatra, or Chiltra, a tn. of British whatsoever is no more than personal

Pop. about 10,000.
Chatre, La, a French tn. in the Chattels (O. Fr. chatet, from Low Chattels, La, a French tn. in the Lat. capitale), in English law, a form river of the same name. It is situated, used to designate any kind of perto the S.E. of Chateauroux.

Pop. sonal property. This property is divided into 'chattels-real' and the former interests. ehattels-personal.' The former include any estate or interest in lands or buildings which does not amount to a freehold. The latter include neighbourhood. Pop. 2600. to a freehold. The latter include Chatsworth, a vil. in Derbyshirc, money, plate, furniture, and such England, containing the famous seat personal movables. The laws with reference to the two classes differ

Chatterer, in ornithology, is a word that has been applied in a loose sense to many birds without special regard to its applicability. It is often used particularly for Ampelis garrulus, the waxwing, but is frequently used for other passeriform birds which are

members of the family Cotingide. Chatteris, a mrkt. tn. in Cambridgeshire, England, situated in the ad-

English author and journalist, born at Sheffield, educated at Oxford, and then took up journalism in London. In 1902 he became sub-editor of the 4rf Record; in 1902-3 worked on Ruskin's MSS. for the Library Ruskin's Edition of Ruskin; was London correspondent of the Sheffield Weekly Independent; sub-editor of the Daily Mail, and dramatic critic to several papers. In 1904 he became editor and dramatic critic of the Lady's Realm. His works include T. Sidney Cooper, R.A., 1903; Sailing Ships: The Marriages of Mayfair; Modern Journalism, 1909; Steamships and their Story, 1910; The Story of the British Navy, 1911; King's Cr.

70), poet, of a poor lave been scl cntered Colston's Hospital at Bristol at the age of eight, his faculties seem to have awakened. He began to draw, and he became an omnivorous reader, his tastes inclining to poetry. At the age of twelve he wrote a poem, Elinoure and Juga, on old parchment and with obsolete spelling, which deceived the junior usher of the school, Thomas Phillips, who was convinced of its antiquity. Thus encouraged, he continued what was to him a delightful game, and forged a redigner of the De Powhows which perty on the fundamental principle pedigree of the De Berghams, which of English real property and land, was accepted by their descendant, a that a term of years of any length pewterer named Henry Burgum. In

Bristol Bridge in 1248. He now carried the joke further. He sent to Horace Walpole a 'transcript' of The Ryse of Peynctenge in Englande, critten by T. Kovlic, 1469, for Mastre Canynge. Walpole was deceived, and had some thought of printing them at his own press, but before doing so showed them to Gray and Mason, pronounced them forgeries. who Whereupon Walpole returned the manuscript to the lad. C. came to London in 1770, and living in a garret, wrote many verses, including the Excelente Balade of Charitic. He seemed to have a fair prospect of making his way, for Alderman Beekford became his patron; but Beck ford died on June 21, and he could find no publisher or editor to employ penniless condition, on Aug. 24 he poisoned himself with arsenic. That C. should have died eighteen is one of the erving pities of literature, for what might not he have done who at this early age should have written the Balade of Charitie, a poem that beyond all doubt places him in the front rank of English poets. Walpole has heen blamed for his treatment of C., but this is not fair. We held corn with this is not fair. He had every right to be indignant at being imposed upon, but had he been a finer critic of poetry than he was, he would not even have heen deterred by the discovery that the poems were not by 'T. Rowley,' but the work of a lad still living, for the merit of the poems is not so much in the old-world manner as in the matter. There are many who might have turned a modern poem into the spelling of other days, many, indeed, who might have done so better than C., but bow many bave had the genius to have written them? The Rowley controversery survived the author's death, but the question has been definitely settled by Professor Skeat in his edition of Chatterton's works, 1875.

Chattisgarh, the name of one of the districts in the Central Provinces. India, which includes the districts of

Raipur, Bilas The total area

quantities of industries.

1767 he was apprenticed to an at-tinued at court till 1359, when he torney at Bristol, and in the follow-joined the army which invaded ing year hoaxed that whole city with France under Edward III. He was a description, alleged to he from an made prisoner, but ransomed some old manuscript, of the opening of months before the Treaty of Bretigny Bristol Bridge in 1248. He now in 1360. Nothing is known of the next six years of bis life, but from 1366-72 he was again connected with the court, being at one time a valet of the king's household. At the death of his patrou, Prince Lionel, in 1368, his services were transferred to John Gannt, Duke of Lancaster. It was at this time that he first began to write. For the next twelve or fourteen years C. was constantly employed as a foreign diplomatic agent. During 1372-73 he was in Italy, first visiting Genoa on a commercial mission, and later Pisa and Florence. On his return he was rewarded by the grant of several privi-



GEOFFREY CHAUCUR

leges, including, in 1374, the office of the comptroller of the customs and subsidy of wools, skins, and leather for the Port of London. In 1375 he received the eustody of the lands and person of Edmond Staplegate of Kent. and in 1376 was employed upon a seeret mission in conjunction with Sir John Burley. During 1377 he went to Flanders, and later to France, to treat for peace with Charles V.: in 1378 to France and Lombardy; in 1382 was appointed comptroller of the petty cretoms, and in 1386 became member of parliament and a knight of the shire for Kent. Later in the year be vated, and comprises one of the was reduced to comparative poverty industries.

by being removed from both bis chaucer. Geoffrey (c. 1340-1400), offices of comptroller, apparently at an English poet, born in Thames the instigation of Thomas, Duke of Street, London, the son of a vintner. Gloucester. In 1387 he lost his wife, At about sixteen years of age he be. Philippa, and in 1389, on the return came page to Elizabeth, the wife of of his patron, John of Gaunt, from an Lionel, Duke of Clarence, and con- absence abroad, was appointed clerk

hesuperintended works at St. Georgo's Chapel, Windsor, at Woolweh, and at Smithfield, but in 1391 lost his position. For the remaindor of his life, in spite of various minor posts and pensions, he seems to have been in an entirely original poet except in want, and he died, at about siyears of age, in a house he had acquired at Westminstor. His we them,

and previous to 1372, his work was entirely imitative, and based on the popular French poems which would be the natural models of a young poet of the time. He himself tells us that he made a translation of the famous romance, Le Roman de la Rose, but of this all trace has been lost except three fergrents of doubtful author. three fragments of doubtful authenticity. Probably his earliest poom which remains to us is the ABC, a prayor reudered out of r'ench at the request of Blanche, Duchoss of Lancaster. To this period also belong the Compleynt to Pile, a poem of re-

momorate the death, at the uge of twenty-nine, of the wife of his patron, John of Gaunt. The second, or Italian period (1372-84), is marked throughout by a love and knowledge of Italian poetry, gained during his first mission to that country. French romunce was thrown over as he came to learn more of the full range and power of poetry, and the work of this timo shows an enormous advance in form, simplicity, and directness of diction, humour, and, above all, the art of tolling a story. Parts of several of the Canterbury Tales, such as the Second Nonnes tale, the Clerkes tale, the Knightes tale, the May of Lewes the Knightes tale, the Man of Lawes talo, the Monkes tale, the Doctor's talo, the tales of the Prioress, Squire, Franklin, and the rhyme of Sir Thopas, were probably composed during this period, but the most important complete poem produced under Italian influence was Troylus and Creseide (c. 1382), a very free translation, with many additions, of Boccaccio's Filostrato. The additions are excellent and full of originality, and while the passionate description of the ruined love of Troilus and Anelida may be reminiscent of the Compleynt to Pite, the character of Pandarus foreshadows the humour of the Canterbury Tales. Other poems of this period are the Compleynt of Mars; Ancilda and Artic; Bocce; the Former Age, mainly taken from Boethius; the Wordes to Adam; the Parlement of Englands of the State of the Adam; the Parlement of Foules, full of dolightful rative poet, considerable dramatic

of the works at Westminster. In 1390 | humour; and the Hous of Fame, an unfinished poem, showing the influenco of Dante. The prose translation of Boethius was also written at this time. The third, or English period, beginning about 1384, shows Chaucer of his work, and

to be called the oetry. Between fall into three periods, named, from 11000-19 he composed many of the most characteristic of the Canterbury Tales and the Prologue, revised and completed earlier tales, and consolidated the whole work. He also wrote the Legende of Good Women (1385 - 6), which was left unfinished; the Treatise on the Astrolube (1391), compiled mainly from Messahala, for his littleson Lowis, and left unfinished; the Compl int to his . urse; and sevoral minor poems of doubtful date, such as The Canterbury Tales, upon Truth. which Chaucer's famo chictiy rests, owo their plan to the Decameron of Boccacei, in which stories are told by a band of fashionable ladies and gontlemen who had retired to a garden outside Florence to escape the plague. Chancor transposes the idea to contemporary English life by making the tellers of his tales members of a party of pilgrims on the road from Southwark to the shrine of Thomas à Becket at Canterbury. The pilgrims include men end women of overy rank of social life, and ro-present the church, the army, the court, law, medicino, trade, the sea, and the kitchen. The plots of their tales como from various sources. Many are feroign in origin, but much skill is shown in assigning these to sultable characters and bringing thom into harmony with the general schemo by adaptation and addition. Many, such as the tales of the Miller, the Reove, the Cook, the Wife of Bath, the Merchant, the Friar, the Nun Priest, and the Pardoner, are typically English, shrewd, good-tempered, inclined to be boisterous and full of a humour, which, if at times too broad for modorn taste, is frank, hearty, and healthy. But perhaps Chaucer's genius is best displayed in the *Prologue* and the short connecting links between the various stories. The short sketches of the individual pilgrims which form the Prologue give the appearance and character of each with such vivid truth that they literally live for the reader. There is probably no document extant which is better calculated to bring homo to the student the essential breathing humanity of the medieval Englishman, as well as his peculiarities of dress and custom. Though Chaucer is in the main a narpowor is shown in the continuation of and the bas-relief 'Fine Arts' heing the characterisation in the conversa- in the Musée Napoléon. He produced tional interludes which comment on also a bust of Napoleon. tional interludes which comment on the stories told. The language in which the tales are told is sufficiently near to modern English to he easily intelligible with the aid of a glossary,

fordshire, which he represented in numerous parliaments. In 1407 and in 1414 ho was elected Speaker of the House of Commons. Heserved onseveral diplomatio missions, and in 1424 became a member of the council.

Chaucer Society, The, founded in London (1867) by F. J. Furnivall, with the aim of supplying scholars with the aim of supplying scholars with MSS, and early texts relating to Chaucer not accessible to the public generally, and of facilitating Chaucerian , research, and encouraging knowledge of his works by all. Furnivall issued a six-text print of the Canterbury Tales for the society, and a Concordance has been prepared by it. Chauri an ancient and newerful

Chauci, an ancient and powerful German tribe, mentioned by Tacitus as a people of great nobility, who lived by the shores of the German Ocean, in the district stretching bo-Ocean, in the district stretching botween the rivers Elbe and Ems.
They, frequently warred with the Romans in the early part of the first century, but there is no record of them after the 3rd century.
Chaudesaigues, a tn. in the dept. of Cantal, France, 19 m. S.S.W. of St. Flour. It is renowned for its hot

mineral springs, which have a varying temperature, and at their highest point are among the hottest in France. These springs are said to have been known to the Romans. In the near vicinity of the town there are some

cold chalybeate springs. Pop. 1000. Chaudet, Antoine Denis (1763-1810), a French sculptor, born in Paris. After obtaining the grant prix,' ho left his birthplace and went After obtaining the 'grand prix, no left his ortupade and went to Rome, in 1784, and here, in-finenced by the enthusiasm which prevailed in those days for the prevailed in those days for the channey, Charles (1592-1672), an English nonconformist divine, born antique under Canova, he wronght in Hertfordshire; hecame Greek prohism cost famous works, 'Love,' 'Peace,' 'Paul and Virginia,' all of which are in the Louvre; 'Ædipus'

Chaudfontaine, a Belgian village, eharmingly situated on a hill above the river Vesdre, five miles S.E. of Liège. It possesses hot mineral

in which, however, the peculiar charm of the original naturally suffers a little. Among the numerous editions of Chaucer's works may be mentioned that of Skeat. See Life by Godwin, 1804; Nicholas, 1866; Ward, 1879; Legouis (English translation), 1913.

Chaucer, Thomas (c. 1367 – 1434), an English statesman, probably son of Geoffrey. He had the early patronage of the Duke of Lancaster, and held several poets under Richard II. and Henry IV., notably that of cluic butler. He had large estates in Oxfordshire, which he represented in numerous parliaments.

Chaudoc, an arron. of Coehin-China, on the lower arm of the river Mckong. The country is mountain-ous in the western part, and flat and ous in the western parts, and forms the marshy in other parts, and forms the plateau of Thatson, 1300 to 1600 ft. The chief products are rice, maizo, veretables, and indigo. The in-The ener products are rice, many, vegetables, and indigo. The inhahitants are composed of Malays, Chinese, Tsiams, Camhodians, and Annamites. The capital town, C, stands at the head of a canal which forms a connection with the river

and the port Ha Tien.

Chaumette, Pierre Gaspard (1763-94), a French revolutionist, son of a shoemaker at Nevers. Ho was for some years a seaman, and led a wandering sort of life, becoming in 1790 a student of medicine at Paris, and an orator at the club of the Cordeliers. Ho was an ardent worker for social reform, and secured hetter conditions in the hospitals, and the suppression of obseeno literature and ill famed houses. He fell under Robespierre's displeasure on account of his revolutionary proceedings, and was executed.

Chaumont-en-Bassigny, the cap. of the dept. of Haute-Marne, France. A picturesquo town situated on a height between the rivers Marne and Su'-

of Th

an an neighbourhood. It was here, in March 1814, that Great Britain, Austria, Russia, and Prussia concluded the treaty, or the Holy Alliance as it was afterwards called, against Napoleon. Pop. 12,000.

culties, and in 1638 he emigrated to Massachusetts. He preached for twelve years at Seltuate, and in 1654 became president of Harvard College.

Chauny, a tn. in the dept. of Aisne, France, situated on the Oise, which at this point becomes navigable. Much fighting took place here during the Hundred Years War. Chief industries are the sugar factories, metal foundries, and breweries; there are also important chemical works. Pop. 10,000.

Chausses, defence pieces of armour for the legs, made of thick padded cloth or chain mail. They were usually fastened by lacing below the knee. In earlier times the word was

used to designate hose.

Chaussey a small island belonging to France, in the English Channel, nearly opposite the port of Granville. It is about 10 m. long by 4 m. wide, Granite is quarried in large quantities

during the summer months.

Chautauqua, a beautiful lake of glacial origin in the co. of Chautauqua, New York, U.S.A., 1300 ft. above scalevel. Its length is about 20 m., while the greatest hreadth is 2 m. It lies 10 m. away from Lake Eric, and is 700 ft. above lt. On its shores stands a large adult summer school, founded by Mr. John H. Vincent and Mr. Lowis Miller in 1874, for instruction in literature, art, and science. In 1878 the C. Literary and Science. In 1878 the C. Literary and Scientific Circle was founded, which has its own magazine, and a college. The C. Assembly grounds, lying to the N. of the lake, cover about 165 acres, and contain about 500 cottages, a hall with seating accommodation for 5000 persons, a fine hotel, and a museum. It is the resort of many students and visitors in the summer season.

Chauvinism, a term used for unreasonable and exaggerated patriotism and pride in one's own country,
with a corresponding contempt towards other nations. It is the Frene
equivalent to the English 'jingoism.'
Nicholas Chauvin was an old soldier
of the republic, and, well known in
Paris for his devotion to the cause,
his name became a synonym for
the blind worship given by Frenehmen to Napoleon. Chauvin has been
represented on the stage as a patriotic
character by many writers—in T. and
H. Cogniard's La Cocarde Tricolore,
1831; in Bayard and Dumanoir's
Les Aides de Camp; and Seribe's
Le Soldat Laboureur.

Chaux de Fonds, La, an industrial tr. in the canton of Nenebatel, Switzerland. It is the chief centre of the watchmaking industry, and has a school for the engraving and enamelling of watch-cases.

d to great Anstrian traveller and geofor great Anstrian traveller and geofor grapher, who was born at Graz. From
for 1867-69 he travelled in N. America,
for Central America, Morocco, and the
hich sahara; and from 1884-85 he explored
works are: Die Temperaturverhältingern, Die
etal

se, and Phy-Afrika.

Cheapside

Chaves, a fortified tn., on the r. b. of the Tamega, Portngal. It has silk and linen industries, and is famous for its hot saline springs. It was once an important frontier fortress.

Chay Root, or Oldenlandia umbellota, is a species of tropical Rubiaceæ, cultivated for its long roots, from which a red dye is obtained. It is also known as Indian

madder.

Chazars, a people living in the 7th century on the shores of the Caspian. In the 9th century they inhabited that tract of land stretching from the Caspian and Volga to the Dnieper. Their power was eventually crushed by the Byzantine emperors and the Russians in the 12th century. They were tolerant of all religions, and numbers of them adopted the Jewish faith from Jews who fled from persecution by the Emperor Leo.

Chazelles, a community in the Loire dept. of France, 23 m. from Lyons; has felt hat factories. Pop.

6000.

Chazy, a name given by American geologists to the limestone found at Chazy, New York, and elsewhere in the N. American continent, and constituting a subdivision of the Ordovician.

Cheadle, a market in in Stafford, England, 13 m. N.E. of Stafford. There are important collieries in the neighbourhood; also manufs. of brass, copper, and tin. The silk mills and tape factory form other considerable industrics. The Roman Catholic Church of St. Giles was designed by Pugin, and creeted in 1846. Pop. 5000.

Cheape, Sir John (1792-1875), an English general, who served in the first Burmese war, 1824. In 1849 he did admirable service in the battle of Gujarat, which the British won under Lord Gougb. It is due to his efforts that the provinces of Pegu and Tenasserim were added to the East India Company's possessions in 1850. He was made a general in 1866.

Cheapside, a street in the City of London, lying between St. Paul's Cathedral and the Poultry. In olden times it was known as the 'Cheap,' or 'West Cheap,' and in the 14th century tournaments and jousts were held there. They were given by the

charge of a shield, or escutcheon. Or.

checony or and azure. Cheddar, a vil. in Somerset, England, 22 m. S.W. of Bristol. Famed for the large stalactite cases under form a source of great attraction to mer visitors. The remains that have been found in these caves prove the existence of Roman settlements . The beautiful rocky way which leads from the Mendip Hills down into the village is known as the Cheddar Gorge. The noted Cheddar cheese is

Chedorlaomer (nudur - Lagamar). King of Elam, the chief of the four kings who fought a victorious campaign against the five robel Canaanite princes mentioned in the 14th chapter of Genesis. Lot was taken by the kings, but was reseued one night in The an attack made by Abraham. The name signifies 'servant of Lagamar,' an Elamite god, and the name of

district Pop. (1911) 1974.

Babylon.

Cheduba, or Man-aung, an island in the Bay of Bengal, 10 m. from Arakan. The soil is fertile, the chief

of milk, produced by separating roteinous or nitrozenous substate known as casein or curd, from wher. The latty motter in milk for an important constituent of C., and often there is present in C. a greater often there is present in C. a greater lase of fat or butter than of casein. Therefore, the finest Cs. are made from the richest milk, and the various kinds of C. on the market are as much due to the different consistency qualities of milk in various districts prophila casei, of the family. Sepsidæ, as to the different processes of making. The adult fiv lays its errs in cheeses, and the larve feed on the matter in frequent references to it occur in which they have been hatcbed. proteinous or nitrogenous substa-

king, and held opposite Bow Church, Greek and Roman authors, and the from a balcony of which the queen, court, and nobility used to watch the described by Columella. The case in proceedings. Until 1390, there stood, in milk is separated by acids in the the Old Cross, at the W. end of Cheapside, beside which Stapleton, pared from the stomach of sucking Bishop of Exeter, was beheaded.

Cheating, see FealD. Cheboygan, a city in C. co., when the rennet is added in a liquid Hichigan, U.S.A. It is situated in a form, which causes the milk to fer-Michigan, U.S.A. It is situated in a north, which causes the hand to re-fertile farming district, and possesses ment. The curd, thus produced, is paper and lumber mills, and tan-neries. The curd, thus produced, is neries. The curd for a few minutes, and then heated up to 90°-100° F. Checquy. Checqui, or Checky, in and then heated up to 90°-100° F, heraldry, the term signifying small The object of the operator is to bring squares which constitute the field or about the proper consistency of curd, without losing any of the fat of the a fess checoup azure and argent is butter in the whey. The whier is the coat of the Scottish Stewarts, finally drawn off, and the curd left while that of Warren, Earl of Surrey, to settle until it becomes a firm solid, and Vermandois in France, is The fermenting action of the rennet continues during the period of ripening the curd. The curd is tested from time to time with a hot iron. If the development of acidity has been allowed to go too far, the curd be-comes brittle and cracks easily. When the bot iron test shows fine long flakes, the curd is cut up into slabs and passed through a small grinder. Salt is now added to the substance to prevent any further development of acidity, and the substance is wrapped in cloths, and left to mellow made here and in the surrounding in a cool room or cellar. The hard Cs., made in the United Kingdom and in America, improve in quality by keeping. They are generally left for several months to ripen, and when for several manual several forms of the finished are fairly hard in substance. Continental Cs., on the other hand, are soft, most of them require to be eaten when quite fresh. The chief eaten when quite fresh. The chief hard Cs. are: Cheddar, Stilton, Enghard Cs. are: Cheudas. Chilbehire, lish Cheshire, Gloucester, Willshire, Communical and Gruvere. The best-Kndur-la-ukh-gamar appears on a Gorzonzola, and Gruyère. The best-tablet of Khammurabi, a king of known soft Cs. are: Bric. Neuchatel. Camembert, and Limburg, and Phila-Cheduba, or Man-aung, an Island delphia cream. C. is a very nutritions in the Bay of Benzal, 10 m. from food. Well-cured Cs. contain about Arakan. The soil is fertile, the chief of per cent. water to 6 per cent. corps being rice and tobacco, also cotton, indigo, and the sugar cane. The island is noted for its good petroleum wells.

Cheese (Lat. cuseus), a preparation of milk, produced by separating contains about 36 per cent. fat and 28 per cent. protein. C. has often been regarded as an of milk, produced by separating cacount. account too large

Cheese-mite, or Tyroglyphus siro, curved and bear small hairs. C. an arachnid related to many other fragrans will grow in Britain under tes which are either parasitic or sheltered conditions. is an arachnid related to many other mites which are either parasitie or live on organic matter such as carrion and plants. The Tyroglyphus inhabits old cheeses.

Cheese-rennet, or Golium verum, a species of Rubiaceæ allied to the eleavers (q.v.), and obtains its popular name from having been formerly

employed to curdle milk.

Cheetah, Cheeta, Chita, and Hunting Leopard, are all names of Cynælurus jubatus, which, with the various species of Felis, e.g. lion, tiger, and leopard, constitutes the family Felidæ in the group Æluroidea, or cat-like carnivores. It differs from other members of the family chiefly in having longer limbs with non-re-tractile, blunt claws, and the upper carnassial tooth has no inner tubercio. With such claws it is more adapted to obtaining its prey in chaso, like the dog, rather than by cat-like stealth, and it is readily domesticated, again like the dog; when tamed it will purr like a huge cat. It is about the size of a leopard in length, but stands higher, and its tawny hide bears black spots. It is distributed over the whole of Africa, W. Asia, and India, and in S. India it is largely used in hunting. Cheever, George Barrell (1807-90),

an American elergyman and writer, born in Maiac. U.S.A. He was educated at Bowdoin College, and from 1832-70 was pastor of the Congregational Church in Salem, Mass., and in New York. Ho was an activo opponent of slavery and intemperance, and delivered many lectures on religious literary and college questions. religious, literary, and social questions.

His most popular work is Lectures on

the Pilgrim's Progress.
Chefoo, or Chifu, a treaty port of the N. side of the Peninsula of Shantung, at the entrance to the Gulf of Pechill, and is the only port that remains open through the winter. It has the most healthy elimate of all the treaty ports, and is much frequented by invalids as a health resort in summer. The town is built on the shore, and has a fort and a signal station. The chief exports are silk. straw-braid, and vermicelll, and the imports are sugar, paper, iron, and opium. C. is a place of increasing importance as a market for foreign goods, especially English cotton, yarn, and American sheetings. The port

of small but beautiful ferns. plants are usually found on mounties to Antwerp, he was treacherously tains of temperate countries, and in arrested by order of Philip of Spain, ebaracter they are half-hardy and and sent to the Tower in London. xerophytic; the fronds are often Terrified by the threat of death, he

Cheiracanthus, a genus of fossil fishes in the group Elasmobranchii, is a member of the family Acanthodide. Several species, e.g. C. Murchisoni, have been found in the Lower Old Red Sandstone of Scotland,

Cheiranthus, a genus of Crucifera which contains ten species of western and Mediterranean plants, and is represented in Britain by C. cheiri, the common wallflower (q.v.). C. semperflorens is a N. African species which bears white and yellow flowers in

different seasons. Cheirolepis, a genus of fossil ganoid fishes bearing minute scales, belongs to the family Paleoniscide and occurs in the Devonian. Ch. cummingiæ has been found in the Old Red Sandstone of the Orkney Islands and Morayshire.

Cheiromancy, see PALMISTRY.

Cheiroptera, see BAT. Cheirostemon Platanoides. hand-tree, is the single species of its genus and belongs to the Sterculiacem. It inhabits Mexico and will not grow in Britain. The plant is a lofty tree with the habit of a plane and a trunk the thickness of a man's body; at the head are dease branches, brownish at the tip from the short, favor-coloured hairs that beset them. The leaves are heart-shaped, and the bright red flowers bear stamons arranged in the form of a hand. The tree has been an object of curiosity and veacration from time immemorial, and rejoices locally in the name of Macpalxochitlqualinitl.

Cheke, Sir John (1514-57), an English classical scholar, educated at St. John's College, Camb., where, in 1529, he became a fellow. On account of his great abilities, he gained an exhibition from the king, and in 1540 ho was made professor of Greek at the university. He numbered amongst pupils at St. John's, Roger Aschain, who always spoke of him in high terms of praise, both for his learning and character. Ho introlearning and character. Ho intro-duced a new pronunciation of Greok, which at first raised much opposition at the university, but C. finally pre-vailed, and the system was used in England until quite recent years. He was apostrophised by Milton in his 'Tetrachordon' sonnet. In 1554 he was made tutor to young Prince Edward.

later years he was banished m England, on account of his alous religious opinions. He reained abroad for many years, then The whilst travelling one day from Brus-

U.S.A. the terms apothecary, drug-just, pharmaeist, and chemist are substance is altered. used practically as equivalent names Hietory.—The ancient civilisations, for those licensed to compound and Egyptians, Phonicians, Greeks, and sell medicinal drugs and poisons, but Romans, were familiar with several of

sists of fellows, associates, and members, both honorary and foreign, and is governed by a council chosen by the fellows. Those wishing to be elected as fellows must possess a cleeted as fellows must possess a cleeted has been signed by five fellows of the society, and they five fellows of the society, and they are three of them. The headquarters are at Burbington House.

Cheming des Rondes, a level space.

Undergoes physical change by means of which it acquires the power of the match has been signed by the match have been described by means of which it acquires the power of the match have in leave the power of the match having been ignited has Chemin des Rondes, a level space, The match having been ignifed has ahout 12 ft. broad, which is formed undergone a permanent change, outside the rampart of a fortress or whereby it is no longer combustible. of an outwork, and raised a few feet. The physical change quoted above in-above the ground. It is protected on volves no alteration in the substance the exterior by a low wall. It is useful itself, and the acquired property is as a path for superintending officers; further only temporary and can be as a path for superintending officers; further only temporary and can be and is a station for defenders who are continually lost and reacquired. The preventing scaling-ladders from being difficulty occurs in this fact, however, placed against the escarp-revetment. that every chemical change is accomplished and Druggist. Since the panied by physical change, and the Pharmacy Act of 1868 this title is physical change may often he the especially reserved for those who, only sign that chemical change has have passed the 'minor' examina-itaken place. But it might be said tion of the Pharmaceutical Society of that C. is concerned with the investigreat Britain (founded 1841). In gations of the changes which occur U.S.A. the terms anothecary, drugs; when the molecular structure of any

sell medicinal drugs and poisons, lut' Romans, were familiar with several of the three classes are quite distinct in the metals and the processes of exthe United Kingdom, apothecaries tracting them from their ores, while forming the lowest rank of the protection o gain the title an apprenticeship of three years must be served under distillation. Geber, an Arahian some one already qualified, and chemist of the 8th century A.D., a general knowledge examination equal to the Medical Preliminary of salt, alum, copperas (ferrous sulphate), the General Medical Council must be and sulphuric, nitric, and acetic passed. For a long time in England acids. The apparatus used by him the policy of Cs. and Ds. was defensive, and by 1802 a defensive association was formed, which, later, strongly 17th century. From the 8th to the strong of the bill of the Associated into the hands of the alchemists. They Apothecaries, 1812-15. Laws have were concerned with the production been passed to define the liability for of gold from baser metals, and in their injuries caused by carelessness or search for the philosopher's stone; been passed to define the liability for injuries caused by carelessness or search for the philosopher's stono; ignorance. The history of Scottish and in the course of their studies they druggists has practically coincided discovered many potent medicines, with that of English since the Pharmacy Act of 1882. See Encyclopedia of the Laws of England, i., ii., iii.

Chemistry, a branch of that science which consists in the study of the gances that they are unintelligible. changes which matter is capable of 'At the same time it must be reundergoing. These changes may be immeded into physical and chemical, and although in the higher stages it, possibly have been better directed is impossible to draw a definite distinction between them, C. mid physics emanations lending great colour being converging sciences, examples again to the theory that the transcan be given of both varieties of, mutation of metals is possible changes. For example, a steel needle Modern C. may be said to commence rubbed on a magnet in a definite way: with Robert Boyle (1627-91), for he was the first to endeavour to rid C. gen combine with phosphorus in the of its alchemic tendencies. In his proportions by weight—phosphorus: book the Sceptical Chemist, he discredited the archemic theory regarding salt, sulphur, and nicreury as the elements of substances, and at the same time gave a scientific definition of nn element. He it was who introduced the nir-pump and the thermometer to this country, and his experiments on the physical properties of gases gave us Boyle's Law concerning the relation of the volume of n gas to the pressure exerted on it. Following him we have Beeher (1638-82), and Stahl (1660-1734), who for-mulated the phlogiston theory of eombustion. This theory stated that phlogiston was contained in all combustible substances. The act of combustion was regarded as the escape of phlogiston from the hurning sub-Thus, when lead was burut the material left, lead oxide, was regarded as the other constituent of the metal and was the calx. By heating a calx with some other substance rich in phlogiston, the metal was again produced, as when lead oxide is re-duced on charcoal. This theory received a nasty blow when Boyle showed that the calx was heavier than the motal, and that consequently the addition of the phlogiston to the calx results in a loss of weight. This was explained away, however, philogiston had But

after the dis-by Priestley, by of oxygen Scheele, and Lavoisier, the latter of whom finally destroyed it (1772-85). In the meanwhile Boerhave (1668-1738) published a system of C., and Marggraf (1709-82) studied alumina and magnesia and worked on the quantitative analysis of substances in solution. Among famous English chemists of this time may be named Cavendish (1731-1810), who studied acid, and Priestley (1733-1804), who discovered oxygen and studied nitrie oxide, nitrous oxide, hydrochlorie neid, gases. etc. and ammonia Lavoisier (1743-94) was the first to lay down a real system of chemical nomenclature. Scheele (1742-86), elements, which combine v given weight of another eleme compared, then they bear a

proportions by weight—phosphorus: chlorine = 1:3:43: phosphorus: phosphorus : Chlorine and hydrogen $\approx 1:0.097$. hydrogen also combine to make hydroeldorie acid, and they do so in the proportion — chlorine: hydrogen = 35.5:1; and 35.5:1 = 3.43:0.097. Berthollet (1748-1822) studied chemical affinity and applied chlorine to bleaching, and Dalfon (1766-1844) stated the atomic theory which placed C. on the basis of an exact science. Among the great chemists sinco may be mentioned Gay - Lussac (1778 - 1850), Dulong (1785-1838), Wollaston (1767-1829), Davy (1778-1829), who discovered the use of electricity for decomposing soda and potash with the consequent separation of the metals sodium and potassium. Berzelins (1779-1848) confirmed the law of constant proportions, fixed many atomic weights, and formulated the electrochemical theory of the constitution Those chemists mentioned of salts. above, while not regardless organic C., devoted their nttention to the study of inorganic C. In 1828 Wöhler (1800-82) discovered that urea could be made in the laboratory.

(1817-84), (1825-99), others. 'n Among general chemists of recent times may (1791 - 1867)sen (1811-9

Mendelcëfi Van't Hoff.

Elementary principles of chemistry. Now to proceed from the general consideration of the science, in the first place we must recognise that to hydrogen and atmospheric air, and the chemist all matter, solid, liquid, made the important discovery of the compound nature of water and nitric particles called molecules. The molecules cules of any substance are all similar. In each of the three states, solid, liquid, and gaseous, the molecules are always supposed as moving. This movement will be greatest in the gascous state, where the spaces between the molecules are greatest, and who lived in Sweden, discovered a large number of acids, chlorine, and oxygen. Richter (1762-1807) discovered the law of reciprocal proportions, i.e. that if the weights of various ture. These particles of which molecules have a reconstructions, i.e. that if the weights of various ture. These particles of which molecules have a reconstructions are in most eases possessed of a structions, i.e. that if the weights of various smallest in the solid state, where the are called atoms, and olds these together is

affinity (that holding relation to the proportions in which those elements will combine amongst and known as cohesion), and, again, themselves, e.g. chlorine and bydro-these atoms are conceived as being in a now possible to say that any change which leaves the molecules intact is a physical change, while any change in the structure of the molecule itself

may he said to be chemical.

Elements and compounds.—Now some molecules contain atoms of the same kind, while others contain atoms of different kinds. Thus, in a molecule of water there are atoms of hydrogen and oxygen, while in that of sulphur all the atoms are alike. When all the atoms are similar, wc call the molecule an elementary one and speak of the substance as an element. On the other hand, we speak of the molecule with different atoms as a compound molecule, and the substance as a compound. Now it is evident that if a substance is composed of more than one kind of matter, i.e. is a compound, it can be built up from the component sub-stances (synthesis), or separated into these simpler substances (analysis or decomposition). If any substance can neither be split up into simpler substances nor built up from them, theu it is said to be an element, and we assume that it consists only of similar At the present time there atoms. are about eighty elements. It is possible that some of these may, in time, he proved not to he elements, but at prescut it has not heeu possible to further decompose any of them. The number of components is practically infinite, since they consist of combinations of these elements. All substances which are not elements are not necessarily compounds. They may he mechanical mixtures. When elements are brought together, they may just mix without losing their identity or separate properties, or the atoms in molecules of the various sorts may separate out and re-mingle to form other and different molecules with perhaps quite distinctive pro-perties. The former would be said to be a mechanical mixture and the latter a clicmical compound. For example, carbon, sulpbur, and nitre mix to form a dark grey mechanical mixture, which can be separated out again into its three constituents hy This mixhut if by

e exploded the result is a rearrangement of the atoms into different molecules with the consequent formation of chemical compounds. Chemical compounds are only produced by chemical action,

which really consists in the rewhich really consists in the rearrangement of various atoms into new molecules. This may result by:
(1) The direct union of two molecules to form a more complex molecule; (2) an exchange of atoms

state of motion. With this in mind it is; between molecules; (3) by the rearrangement of atoms within a molecule. As an example of (1) we may take the union of a molecule of carhon with one of oxygen to form carhon dioxide; of (2) the union of a mole-cule of hydrogen with one of chlorine, each containing two atoms, to form two molecules of hydrochloric acid, each containing one atom of hydrogen and one of chlorine; of (3) ammonium cyanate warmed gives urea. Both contain the same atoms, only in different arrangements, yet their properties are entirely different. Chemical action may result from a variety of causes. In some cases it is sufficient to just hring two substances together. In others heat is required to cause it. Chemical action is always accompanied by the evolution or the absorption of heat. In the latter case, heat must he supplied to the substances to cause the action, e.g., if iron he brought to a dull red heat and it be placed in oxygen, it burns fiercely with the formation of oxides of iron. Phosphorus, on the other hand, comhines with the oxygen in the air at the ordinary temperature with the evolution of heat and light. In some cases light is essential to chemical action, as, for example, when chiorine and hydrogen gases are mixed: un-less light be given them they will not combine. Photography depends entirely upon the fact of light causing chemical action. Again, in some cases while heat is required to start chemical action, the great evolution of heat in the process is afterwards sufficient to keep the action pro-ceeding, e.g. it is necessary to heat a strip of magnesium in order that it may take fire. Then, however, no further heat is required, the great heat evolved being sufficient to set the strip burning furiously until the end is reached. Pressure also may cause chemical action, e.g. hydro-chloric acid and phosphoretted hydrogen gases will combine to form the solid phosphonium chloride under pressure. Sound also may cause chemical action. An explosion of mercury fulminate causes acetylene gas to break up into solid carbon and hydrogen gas. A peculiar process of chemical action can only be brought about in the presence of a third substance. In some cases this third substance is known to take a part in the action, while in others its action caunot be traced. In any case, how-ever, that third substance is, at the end, unchanged. This type of action is known as catalytic. Further, some forms of chemical action require moisture. The rusting of irou, or the combination of sodium and chlorine to form common salt, cannot take place

thoroughly dried

Under ELEMENTS (q.r.) these symbols gas. Whenever chemical changes will be seen following the name of the occur that are understood, they can element. As will be seen, in some be expressed in this form, and as cases the symbol is the first letter in matter is indestructible, all the atoms the name of the element, e.g. the that appear on the left must have a symbol for Sulphur is S. In other place on the right of the equation. symbol for Sulphur is S. In other place on the right of the equation cases, where several elements start This explains the qualitative use of with the same letter, the first and symbols. They have a further some prominent letter in its pro-nunciation is used, e.g. the symbols for Carbon, Cobalt, and Chlorine are C, Co, and Cl respectively. In other cases the symbol is taken from the first and some other letter in the Latin name for the element, e.g. Antlmony (Stibium), Gold (Aurum), Lead (Plnmbum), and Iron (Ferrum) are represented by Sb. Au. Pb. and These symbols in all cases stand for 1 atom of the element. A molecule is composed of various numbers of atoms, e.g. a molecule of hydrogen contains 2 atoms always, while a molecule of phosphorus always contains 4 atoms, while that of oxygen is always composed of 2 atoms. When 3 atoms of oxygen unito to form one molecule we get ozono. So to represent a molecule of an element it is necessary to state how many atoms are in it, and that is done by means of a small numeral placed after the symbol. To express the above facts molecules of bydrogen, phosphorus, oxygen, and ozone would be represented by H₂, P₄, O₂, and O₃. Again, the composition of a compound molecule is denoted in the same way. A molecule of sulphuric acid is composed of 2 atoms of hydrogen, 1 of sulphur, and 4 of oxygen, and would be represented symbolically by H2SO4. some substances groups of atoms are combined to act as a single atom within a molecule, and to express this brackets are necessary, (NH4),SO4 represents a molecule of ammonium sulphate, which contains 2 atoms of nitrogon and 8 of hydrogen combined into two groups, each consisting of 1 atom of nitrogen and 4 of hydrogen, together with I atom of sulphur and 4 of oxygen. Theso groups within brackets are known as compound radicals, and any represen-tation of chemical formation of molecules is termed a formula. Whenever It is nocessary to represent more than I molecule, a numeral is placed before the formula, e.g. 2H₂O represents 2 molecules of water. By means of these formulæ chemical reactions can be shortly expressed in the form of an

In an absolutely dry atmosphere if placed on the left and the resulting the substances have also been substances on the right. Thus, MnO.+ thoroughly dried.

Chemical symbols.—In order that 1 molecule of manganess dioxide we may shortly express chemical unites with 4 of hydrochloric acid, compositions, certain symbols are forming 2 molecules of water, 1 of manganous chlorido, and 1 of chlorine Under Elements (q.r.) these symbols gas.

Whenever chemical changes 4HCl=2H2O+MnCl. + Cl. means that quantitative use which will be better understood after a brief consideration of the 4 laws of chemical combination.

1. The law of constant proportions.
The same compound always contains the same elements combined together in the same proportion by weight. However a chemical compound is obtained, this law holds, and therein lies an essential difference between it and a mechanical mixture which can obviously consist of varied proportions of the mixed substances. e.g. common salt, a molecule which consists of an atom of sodium combined with 1 of chlorine gas, may be obtained from salt mines. bringing sodium into an atmosphero of chlorine, by adding hydrochloric acid to sodium carbonate, and by a variety of other means. But whenever it is analysed it is always found to consist of 1 part of chlorine

0.6479 of sodium by weight.

2. The law of multiple proportions. 2. The law of mutuple proportions in When the same two elements common more than one bine together to form more than one compound, the different weights of one of the elements which unite with a constant weight of the other, bear o simple ratio to one another.' This law simple ratio to one another.' was first recognised by Dalton. some cases the same elements combine together in different proportions, giving rise to two or more compounds. This does not violate the law of constant proportion, for each separate compound always exists with the same proportions by weight of the composing elements. When elements do combine in this way, however, this law holds, and it is best explained by means of examples. The following given by Newth represents the law well. Nitrogen and oxygen unite together to form five different compounds, in which the proportions of nitrogen to oxygen by weight are: Nitrous oxide, 1:0:571; nitric oxide, 1:1'143; nitrogen trioxide, 1:1'714; nitrogen peroxide, 1:2'286; nitrogen pentoxide, 1:2'857. Thus, tho relative proportions of oxygen which unite with a constant proportion of nitrogen are in the proportion equation. The substances used are 1:2:3:4:5 to one another.

law stated ahove.

aw stated anove.

3. The law of reciprocal or equivalent proportions— The weights of different elements which combine separately with one and the same weight of another element, are either hining proportions of phosphorus with chlorine or hydrogen, and the eonsequent proportions of combination of hydrogen and chlorine. will serve. Hydrogen, sodium; and tion can he noted here. Taken by potassium will unite with chlorest re-

in the proportion 1:23:39:80, and with oxygen in the proportion 1:23:39:8. So that taking these separately we can say that 1, 23, 39, 80, 35:5, and 8 are the equivalent weights or combining proportions of hydrogen, sodium, potassium, hromine, chlorine, and oxygen re-spectively. From which we would deduce that were sodium and chloring (say) capable of chemical combina-tion, they would so combine in the

tion, they would so combine in the proportions by weight of 23:35:5. This is found to he correct.

Alomic theory.—Dalton connected these three laws together, and revived the atomic theory. Briefly, it is that matter is made up of minute particles called atoms. Chemical combination takes place between these atoms, i.e. they are drawn and held together hy ehemical affinity. Should they come into contact with other atoms for which either of the already combined atoms has a much greater affinity, then a process of redistribution of these atoms will take place. The atoms of different elements are supposed as having different relative weights, and these relative weights are supposed as being the same as those numbers which represent their combining proportions. So the equivalent weight of an element is supposed as heing its atomic weight. Now this theory will satisfactorily account for the three laws mentioned above, and it is a generally accepted fundamental of theseience of C. Dalton's theory has to be revised in particular instances. For reasons which need not be given

holds in all cases, thus verifying the | Gay-Lussae.- 'When chemical action takes place between gases, either elements or compounds, the volume of the gaseous products bears a simple relation to the rolumes of the reacting gases.' That is to say, that under similar conditions of temperature and pressure, simple relationship can he the same as, or are simple multiples of, pressure, simple relationship can he the weights of these different elements established between the volumes of which combine with each other.' In gases in any chemical reaction. The the brief history of C. a simple illustration is given of this in the compared by the following illustration. 2 volumes of nitrous oxide will de-compose producing 2 volumes of nitrogen and 1 of oxygen. Again, 2 volumes of nitric oxide will decomshow the remarkable application of pose giving 1 volume of nitrogen and this law, the following illustrations 1 of oxygen. But a further generalisa-

the proportions by weight :16
tively as 1:23:39:35-5. Agair
same elements will unite with bromine | nitrogeneoustant. By volume in these two gases nitrogen: oxygen::2:1 and 2:2 respectively. So that there is twice as much oxygen by weight and by colume in nitrie oxide as there is in nitrous oxide. While if 14 and 16 he the atomic weights of nitrogen and oxgyen, then the numbers showing the relative volumes gives the number of atoms. This development was of atoms. brought about by Avogadro, who formulated a hypothesis now known by his name, which stated that Equal volumes of all gases or vapour under the same conditions of temperature and pressure contain an equal number of molecules.' So that weighing equal volumes of gases at the same temperature and pressure should give the relative weights of their molecules. Since hydrogen is the standard and the molecule of hydrogen is known to contain 2 atoms, the ratio between the weights of equal volumes of hydrogen and other gases, not only gives the densities of the gases, but it helps materially towards determining the number of atoms in a molecule and the consequent discovery of true atomic weights. From this, if we return for a moment to chemical symbols, we will see that a chemical formula or equation expresses certain quantitative facts. It can easily be seen now, for example, that hy the equation MnO₂+4HCl=2H₂O+MnCl₂+Cl₂ we can read that since the atomic weight read that since the atomic weights of manganese, oxygen, hydrogen, and ehlorine are respectively 55, 16, 1, and 35'5, 87 parts by weight of manganese di-oxide unite with 146 of hydrochloric acid, giving 36 parts of water, 126 of here, the combining proportions of acid, giving 36 parts of water, 126 of oxygen, carbon, and sulphur, with an ananouschloride, and 71 of chlorine 1 of hydrogen, are respectively 8, gas. Since in scientific work the 6, and 16, while in any table of atomic weights the numbers will he atomic weights the numbers will he 16, 12, and 32.

4. The law of gaseous rolumes or of if the reacting substances are gases

we can tell the volumes that reacted may be placed in either group, this the resultant volumes, c.g. 2H2+O2=2H2O represents the fact that 2 molecules of hydrogen unite with 1 of oxygen to form 2 of water; it also means that 4 parts hy weight of hydrogen unite with 32 of oxygen to form 36 of water, while finally it means that 2 volumes of hydrogen unite with 1 of oxygen to give 2 of These four rules or laws, together with Avogadro's hypothesis. make up the fundamental hasis of the science of C., always bearing in mind the fact that underlying all this again is the law of the conservation or indestructibility of matter. Among other principles which underlie the science may be mentioned that of valency. In the study of the seience it will be noticed that one atom of chlorine and one only will unite with 1 atom of hydrogen. On the other hand an atom of oxygen requires 2 atoms of hydrogen to satisfy the conditions of its affinity for hydrogen, while carbon requires 4. All those elements which only require one atom of hydrogen for purposes of combination are said Those to be mono-valent elements. that require 2, di-valent, and so on

some element with which they do enter into chemical combination, and which is at the same timo monovalent. One atom of sodium, for example, unites with 1 of chlorine, and may, therefore, be said to he monovalent. With elemonts that monovalent. With elemonts that combine with hydrogen no higher valency is shown than 4, but with other elements the valency may rise to 6, as is the case with tungsten, which requires 6 atoms of chlorine to unite with 1 atom of itself. As in all the other instances difficulties arise which are beyond the scope of this article, as, for instance, the fact that measured by hydrogen the valency of phosphorus is 3, while measured by chlorine it is 5. As a general rule, however, the highest number of atoms with which I atom of an element will combine, is taken as representing its valency. Metals and non-metals.-Chemists

divide the whole range of matter into two great classes: metals and non-metals. The metals generally are

depending on whether we consider their physical or ebenical properties.

Periodic system.—So we could classify elements either as metals and non-metals. or according to their valency. But Newlands (1864) de-veloped a system, afterwards iniproved and established by Mendeleeff. now known as the Periodic System. It depends upon the atomic weights of the elements. It can be noticed that if a group of elements be taken which closely resemble each other in their general properties, then the atomic weight of one element will be approximately the mean of the atomic weights of the nearest before and after it, ranged in order of atomic weights: e.g. lithium, sodium, and potassium have atomic weights of 7, 23, and 39. Now $(7+39) \div 2 = 23$. Now if the elements in the various families or groups are arranged in the order of atomic weights, it will be seen that the increase in thesc weights in each group is practically the same. Thus fluorine, chlorine, and bromine have atomic weights of 19. 35.5, and 80, while nitrogen, phosphorus, and arsenic have atomic weights of 14, 31, and 75, and exygen,

between the atomic weights of the first and second in each group are 16.5, 17, and 16, while between the second and third in each they are 47, 45.47, and these numbers are approximately equal. This cannot be pure chance, and Newlands pointed out that if the elements be arranged in order of increasing atomic weights. the properties of the first seven would reappear in the next seven, so that the first and the eighth, the second and the ninth and so on, would be-long to the same group or family. This, he called the law of octaves. Mendelceff, as we have before stated, developed this into the periodic law. This, of course, depends upon the hypothesis that the properties of elements are related to their atomic weights. The first seven elements after hydrogen are lithium, beryllium. woights. boron, carbon, nitrogon, oxygen, fluorino, with atomic weights of 7, 9, 11, 12, 14, 16, and 19. The next

metals. The metals generally are saven are sedime metals opaque, and have surfaces which reflect light so highly that they generally spoken of as having metallic lustre.' They conduct heat and electricity well, and are generally male difference of 16 being evident through all—and the element in the malleable and ductile. Non-metals do not possess these properties although they merge into one another, giving transitional elements which

and pass from lithium and sodium to fluorine and chlorine, we pass from electro-positive soft white metals to electro-negative corrosive gases, while the valency increases as one passes along either row or any succeeding row from one to four and back again to one. After the second row, however, the table gets complex, for the next row consists of seventeen elements, seven take their right places under the other two rows, while three elements (iron, cohalt, and nickel) which are termed transitional elements, and then seven others which, while they exhibit certain likenesses to the seven preceding, can hardly be placed directly under them. These seventeen elements are known as a long period as against the short period of the sevens. From here on the periods are all long, and should consist of seventeen elements, but a large number of gaps occur. These gaps represent elements which we yet have no knowledge of. The vertical columns in these rows of seven are taken and the alternate elements after the first two rows are placed together and form a family, with similar properties. group one will consist of lithium. sodium, potassium, copper, rubidium, silver, casium, and gold. Of these copper, silver, and gold form one family, and the rest fall together. This periodic table is of the utmost value in the study of inorganic C. It has alded in the true estimation of atomic weights of elements, and has atomic weights of elements, and has aided in the discovery of new ele-ments; e.g. Mendeleëff limself pro-dieted the discovery of an element which he called eka-aluminium, and gavo its properties by a study of the series and families in his table. Four rears later gallium was discovered by means of the spectroscope (as he had predicted) and justified his predictions completely.

Chemical nomenclature.—If a substance is a binary compound, i.e. is composed of two different elements, then its chemical name is made up from the names of its composing elements, e.g. when hydrogen and sulphur enter into chemical combination the resultant substance is termed hydrogensulphide. Sometimes, however, the same two elements will combine together in more than one proportion. Names are then necessary to distinguish one from the other. Prefixes or terminal endings are used for this purpose. Phosphorus unites either with 3 or 5 atoms of chlorine, when it is known as phosphorous or phosphoric chloride according as there are 3 or 5 atoms of chlorine in the compound.

same family. As we traverse the rows; as phosphorous trichloride or phosphorus pentachloride. The latter is the more general method. Sub and proto were terms generally in use, but they are gradually falling into disuse. When oxygen is one of the two elements in the compound, the substance is known as an oxide. Some of these oxides, when combined with water. form acids, and are known as acidforming oxides or anhydrides. non-metallic elements except hydrogen form these oxides, and the so-formed acids are called oxyacids. Metals give rise to oxides which form by droxides with water, and these oxides are called hasic oxides. When an acid is brought into contact with a hasic oxide a salt is formed. All oxides are named after the substance with which the oxygen is united, and oxyacids are also named after the same substance. Thus carbon dioxide gives rise to carbonie acid. When a substance forms two acid-forming oxides the terms ic and ous are used to denote the one with the greater and the lesser amount of oxygen re-spectively. Thus sulphur trioxide forms sulphuric acid, while sulphur dioxido forms sulphurous acid. Acids used to be considered as always containing oxygen, but this view is in-correct, as can easily be seen from the fact that chlorine, fluorine, bromine, and iodine, known in C. as the halogen group, form acids when in combina-tion with hydrogen. When acids are added to bases, salts are formed, and acids which contain more than one atom of hydrogen (all acids have, at least, one atom) can form more than least, one atom) can form more than one salt, for a salt is formed by the replacement of the atom or atoms of hydrogen in the acid by the metallic atoms of the base. Thus sulphuric acid (H₂SO₄) contains 2 atoms of hydrogen, and it can give rise to two salts of any metal, for example, normal potassium sulphate and acid hydrogens sulphate represented by potassium sulphate represented hy K.SO, and KH.SO. Hydrochloric K.SO, and KH.SO. Hydrochloric acid, on the other hand, has only one action of the other hand, has only one atom of hydrogen in it, and can only give rise to one salt. Thus according as there are 1, 2, 3, or 4 atoms of hydrogen in an acid, it is known as monor, di, tri-, or tetra-hasic, while a normal salt is one in which all the displaceable hydrogen atoms have heen replaced by the base. heen replaced by the base. Organic and inorganic chemistry.

There are two great divisions in the science of C., organic and inorganic. Tho hranch which is hest known is that of inorganic C., which covers the C. of all the purely mineral substances. Organic C. had to do primarily with that of snhstances obtained from animal or vegetable sources. Now, pound. Another and perhaps hetter animal or vegetable sources. Now, method is that hy which it is known however, it has resolved itself into

the study of the compounds of carbon, | square of its velocity. always bearing in mind the fact that many carhon compounds have no organic origin, and therefore really fall outside the scope of erganic C. The fundamentals of both branches are the same, and the real reason for the division is the number of the carbon compounds and their lighly complex character. It is in this realm that the graphic formula is of most service, and in its organic branch C. most nearly approaches biology. Not only so, but organic C. has been applied technically in order to produce dyes frem ceal tar. This industry of comparatively recent practical account has become most important.

Physical chemistry.—Although of very recent development is now an absolute essential to the study of any hranch of C. with any design. It seeks to explain processes, and to fermulate laws for these processes, and is divided within itself again into electro- and therme . C., etc. One branch of physical C. in which great strides have been made, is the study of the general pro-perties of gases. It is really as much in the realm of physics as it is in the realm of C. In this we may start from Charles' law, 'That when a gas is heated, the pressure being constant, it increases in volume to the same extent whatever the gas may be.' This extent whatever the gas may be.' This law is not quite accurate, in fact physical C. has found the co-efficient of expansion of several of the gases. That of air is '003665, and from this the absolute temperature is stated as being -273° C. This law, together with Boylo's law, 'The volume occupied by a given weight of gas is inversely as the pressure,' gives a basis to this branch of the science. Boyle's law is not absolutely correct either law is not absolutely correct either. All gases except hydrogen require less this thoeretical pressuro reduce it in volume, while hydrogen requires more than the theorotical pressure to do so. This deviation is explained by the kinetic theory of gases, which regards gases or vapour as molecules held together hy tho smallest possible force of attraction. These molecules are supposed as in a state of violent motion, moving in straight lines until they hit against other melecules or the sides of the containing vessel, when they rehound or continue in another direction. The energy remains the same with constant temperature, hut any in-crease in temperature results in an increase of energy or speed, a decrease of temperature, naturally causing the opposite. The pressure of the gas is the effect of this bombardment of

If the cenfining space be reduced, the pressure is increased because the number of impacts is increased. Thus if the space he reduced one-half the impacts, and consequently the pressure, is doubled. This, of course, is Royle's law. Again, heating a gas causes the temperature to rise, and since hy Avogadro's hypothesis equal volumes of gases contain the same number of molecules, the increase in kinetic energy would he the same in any gas subjected to the same range New since molecules temperaturo. of different gases have different weights, and since the pressures and consequently the energies of all gases are the same at the same temperature, and since the energy is imv2, where $m = \max$ of a molecule and v =velocity, it follows that the volocities of melecules of different gases must Calculations hring these volocities out as being preportional to the inverse square roots of their

mown fact liffuse, i.e. partitions l will mix.

Thus if an explosive mixture of hydrogen and exygen be passed through perous tubes, then, by the time they reach the far end, the hydrogen will have diffused se much that a glowing splinter will reignite, the gas being mainly oxygen. Graham established a law which toek note of the well-known fact that light gases diffuse more raidly than heavy case. We more rapidly than heavy gases. His law is: The relative velocities of diffusion of any two gases are inversely as the square roots of their densities. The same result was arrived at, as shown above, hy a study of the kinetic theory of gases. From this it will he seen that while Charles' and Boyle's laws are upheld by this theory, yet, since molecules are not mathematical points, and since impact occupies time, and that, further, since there must be some slight attraction hetween the molecules themselves. then there must be some deviations. Furthermore, there is one point at which heth laws absolutely break down. If a gas he cooled from 0° C. to -10° C., theoretically by Charles' law 100 c.c. of it should be reduced to 96.4 c.c. But in the case of sulphur dioxide, instead of occupying 96.4 c.c. a liquid will have heen formed and only a few c.c. of gas will remain.

This, of course, is a development not accounted for in the law. Similarly by Boyle's law 100 o.c. of a gas at the opposite. The pressure of the gas standard pressure should occupy is the effect of this bombardment of 23 o.c. at a pressure of 4 further the sides of the vessels, and is proportionate to the sum of 4 mass of pressure of 4 atmospheres. On the contrary, at a portionate to the sum of 4 mass of pressure of 4 atmospheres, sulphur each_molecule multiplied by the dioxide gas breaks down into a liquid.

And it is in this branch of the liquefaction of gases that physical science has perhaps made greatest strides. Chemical apparatus has been brought to such a pitch that temperatures approaching absolute temperature can be reached. All gases now with the exception of hydrogen can be liquefied when subjected to certain conditions of temperature and pressure, which vary for different gases. North-more in 1806 was the first to liquely gases, and the gas that he used was chlorine. Faraday was the first, how-ever, to recognise the fact that it was liquid chloring. An interesting application of this subject was the liquefaction of helium which requires the lowest temperatures. This gas, together with argon, krypton, and xenon, forms a remarkable group. They occur in the atmosphere and in certain rare metallic ores, and their discovery is chiefly due to Sir Wm. Ramsay. Radium. which has opened up an entirely new field in C., also emanates helium rays. which can be collected. A further department of physical C. which has received great attention is that of the theory of solutions. It has been established that the pressure exerted by a substance in dilute solution (its osmotle pressure) is the same as would be exerted by the same amount of the substance if it existed as gas, and occupied the same volume at the same temperature. Further the laws relating to gaseous pressure .are similar to those relating to osmotic pressure, and diffusion of dissolved substances can be compared with the diffusion of gases, although it is a much slower process. This theory involves the theories connected with unite in solution to form

molecular structures, of the electrolyte case of certain acids, bases and salts, into ions, but it has been shown that their resultant action can only be explained on the hypothesis that their molecules dissociate into ions. Dissociation is a term used of reversible reactions. Thus chalk ou heating will split up into lime and carbon dioxide. But the lime and the carbon dioxide can reunite to form chalk. That fact may be expressed thus: CaCO, CaO+CO,

Decomposition on the other hand refers only to reactions which only take place in one way. As e.g., 2NH.=
N.+3H, signifies that ammonia on beating is decomposed into nitrogen and hydrogen, and not that nitrogen and hydrogen recombine to form ammonia. The conception of ions in C. is a hranch of electrolysis. A gal-chloride, or form molecules of sodium

vanic hattery is formed if strips of zinc and platinum be placed in dilute sulphurie acid, always provided that a metal wire outside joins the plates. The zinc dissolves in the acid and hubbles of hydrogen are evolved at the platinum plate, while an electric current will pass along the wire. The liquid through which the current must pass is known as the electrolyte. and the poles in the electrolyte are known as electrodes, the negative being the cathode, and the positive the anode. It will be sufficient for the purposes of this article to mention that the theory of electrolytic dissociation at present held is, that the passage of the electricity along the metal conductors and through the electrolyte may be compared to conduction and convection respec-tively. If an ageous solution of copper sulphate be electrolysed the primary products are copper Cu, and the radical SO. The copper is deposited on the negative electrode, and the SO, group passes to the positive pole where it is decomposed positive pole where it is accompany by the water into oxygen, which is liberated, and sulphuric acid. Thus SO₄+H₂O=H₂SO₄+O. The primary products of electrolysis, e.g. in this case copper and SO,, are known as ions. Those which proceed to the positive pole are negatively charged, and vice versa. Among electronegative ions may he named fluorine, chlorine, bromine, and acidic radicals such as SO4, while electropositive ions inelude hydrogen and the metals. Among the laws of electrolysis may he mentioned Faraday's, which says that if the same quantity of electricity he passed through different electroelectrolysis, for solutions of some lytes, then the ratio between tho substances act in such a manner that liherated products of the electrolysis it is necessary to suppose that mole- is the same as that between their cules of the dissolve he electricity caused

> electricity travels as freely through electrolytes as along metals, and that consequently work is not done. Arrhenius (1887) proposed that some of the molecules of an electrolyte are always in a state of dissociation. A development of this theory leads to the conclusion that a solution, say, of sodium chloride has sodium and chloring existing in the free state within the solution. This goes against all preconceived ideas, particularly as soduim causes immediate chemical action if brought into contact with water. To support this theory, however, they must be in such a state and highly charged with electricity. Whenever they lose their charges they either reunite into sodium

and chlorine and assert their usual cloth-worker bora at Treuenbrietzen properties. It is at this point that in Brandeuburg, followed his father's electrolysis merges into the theory of solution. Thermo C. is concerned with the thermal changes which accompany chemical changes. Determinations in this branch of the science are made by means of calorimeters in which the heat that is liberated in chemical action is transferred definite volumes of water, and its application chiefly lies in its efficacy for determining economic commercial processes. Finally, it may be stated that a knowledge of C. is evidently essential in many walks of life, be the surgery, the whother it kitchen, the dairy, the farm, the factory, the mine, or the great iron and steel Industries. The arts and, of course, the great chemical and dye works are dependent upon it, and it stands out as the first study in any scheme of technical education.

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Chemnitz, an important manufacturing tn. of Saxouy, situated in a fertile valley at the base of the Erzgebirge, about 45 m. S.W. by rail from It is the cluef industrial town of the kingdom, the most important manufactures being eottons, woolleus, silks, and leather goods. Locomotives, machinery, and agricultural tools are made in great quantities. There are many buildings of interest—the Old Rathaus in the Hanpt-Markt, the Newmarkt, the church of St. James, etc. There are fine technical schools, as well as schools of engineering, agrleulturo, and commerce. The town was created a free imperial city in 1125, when EmperorLothairefoundedinita Benedictine monastery. It received muni-cipal rights in 1494. The town suf-fered during the Thirty Years' War, but later became a cotton manufacturing centre. Pop. (1905) 244,927. Chemnitz, Martin (1522-86), a

staunch Lutheran divine, son of a the Devenlan.

trade, but soon abandoned it, and became a student at the university of Frankfort-on-Oder, thence to Wittenberg, where he came under the in-fluence of both Luther and Melancthon. He soon gained attention as a brilliant orator and able controversialist. He was bitterly opposed to the Jesuits, and inveighed against them in many pamphlets, chief amongst which are his Theologia Jesuitorum pracipua capita and his Examen concilii Tridentini . . . He

lus. ıdson of Martin (d. 1586). He served as an officer in the service of Sweden during the Thirty Years' War, becoming historiographer to Queen Christina in 1644, councillor in 1675 Ills Hippolytus a Lapide—Dissertatio de ratione status in imperio nostro

logis-

romano-germs C. also wrote in Deutschlar

In Benselin (new edition De Ratione was answered by an anonymous writer, 1657; by Bruggeman, 1667; and Boceler, 1674. It was translated into French by do Chastolet, 1712; by Formey, 1762. See Meyer, Konrersations-Lexikon.

Chemnitzia, a term sometimes used for Pseudomelania, a large genus of marine gastropod molluses which resemblo the elongated fresh-water Mclania. The species occur fossil in the Trias and Jura and less frequently in Cretaceous and Eccene.

Chemosh (god of Moab), the national delty of the Moabites and was designated by the Israelites as the 'abomination of the Moabites.'
The Moabites were also called the 'abildon of Charles had been also called the 'abildon of Charles had been as the control of the Moabites.' 'children of Chelaosh' (Jer. xlviii.). This god's name frequently occurs in the O.T., and is found engraved on The sacriflees the Moabite stone. sometimes consisted of human victims. Solomon is guilty of having idolised this deity by building an altar to him, nor was it pulled down until Josiah's accession.

Chemulpo, also known as Jenchuan, one of the treaty ports, of which there are three. It lies on the W. coast of Korea, a distance of 25 m. from the capital, Scoul. There is a steamboat service between C. and Soul. There are both Chinese and Japanese Inhabitants. This port was open to foreign trade in 1883. The principal exports are beans, hides, and rice. Chemung, the name given by

American geologists to a division of

Chenah River, Punjah. This river, together with the Sutlej, Beas, Ravi, and Jehlum, forms the R. Punjaud or Panjnad (Five Waters), which finally flows into the Indus. When the C. reaches the Punjnud district, it reaches the Punjund district, it attains to a hreadth of 600 ft. It takes its rise in Lahul at an altitude of nearly 14,000 ft. It 590 m. long. Chen-Can-fu, a tn. of Kwangsi, a

prov. in S. China.

Chen-Chou-fu, or Chin-Chou-ru (Shinchow): 1. Atn. of Central China, Hunan prov., on the Yuen-kiang, trih. of the Lei-kiang, 169 m. from Changsha, 110 m. from L. Tung-ting-hu. 2. Also a city of China, Honan prov.,

80 m. from Kai-fung.

Chenedolle, Charles Julien Lioult de (1769-1833), a French poet who took an active part in the French Revolution under Condé. His principal works are Géniede L'Homme, 1807, and Etudes Poéliques, 1820. He came into contact with many interesting personages in the course of his eventful life, amongst whom may he mentioned the writers Madame de Stael and the writers induding the State and Chateaubriand. He belonged to the romantio school of poets, and his works were edited by Sainte-Beuve in 1864, who has also paid tribute to his memory in his Chateaubriand et son groupe.

Chénée, a tn. situated at the con-junction of the Ourthe and Vesdres

in the prov. of Liege, Beigium, Chenery, Thomas (1826-84), a dis-tinguished English scholar, also tinguished English scholar, also editor of the Times, which appointment he received in 1877. He was a student of Caius College, Cambridge, and served in the Crimea as war correspondent to the Times. He had a marvellous knowledge of Arabic and Hebrew, and was one of those appointed to revise the O.T.

Chenevix, Richard (1774-1830), an Irish writer, chemist, and mineralogist, of French parentage, F.R.S. of London and Edinburgh. He was a Copley medalist in 1803. Among his scientific works are: Chemical Nomenclature, 1802; Observations in Mineralogical Systems, 1808. He also wrote the comedy Mantuan Revels; the tragedy Henry VII., 1812; Essay on Natural Character (2 vols.), 1830; papers on pallodium, nickel, and Chenevix, Richard (1774-1830), an papers on palindium, nickel, and platina; Leonora, and other poems. See Annales de Chimie, 1798; Gent. Mag., i., 1830; Gucrard, Dict. Bibliograph.

Cheng-te-fu, also called Jehol, in the prov. of Pechill, China, 115 m. from its cap., Peking; this place is the summer resort of the emperor and contains many gardens and temples.

Cheng-ting-fu, a tn. in the prov. of Chili in the N. of China, and is ap-proachedviâ Hankowor Peking hy rail.

Cheng-tu-fu, cap. of prov. of Szechwan in China, situated in a fertile plain watered by the Min, a trib. of the Yang-tsze-kiang. Thetownismost flourishing, carrying on an extensive silk trade; the natives are very cultured and polished in manner. Thibet supplies the imports, fur and medicines, in exchange for C.'s exports of tea, cotton, and silk.

Cheng-yang-kuan, in the prov. of Anhui, China; noted for its market.

Chénier, André-Marie (1762-94), a French poet who fell a victim to the French Revolution. He was educated at the Parisicn Collège de Navarre, and began to rhyme when he was only sixteen. He held at one time a commission in the army, but soon threw it up and devoted himself to litera-ture. He wrote many idylls and elegies, which show his powers as poct. Singularly chaste in style, he approached the Greeks in their powers of eloquence and choice selection of words. He was largely influenced by Milton, whose classic style he sought to imitate. In 1787 he accepted a secretaryship in England, hut gave up the appointment after three years, and returned to France, v where Moderate party against the extreme methods adopted by the revolution-His Avis aux Français sur leurs véritables Ennemis drew upon him the suspicion of the Nationalists, and he paid for his outspokenness later on, when he was apprehended and finally guillotined in 1794. His most famous idylls are Le Mendiant, L'Aveugle, and Le jeune malade. His later works, L'Invention and Hermès, betray a deeper skill in literary workmanship. His Poésies Lyriques were

published after his death in 1819. Chenier, Marie Joseph de (1764-1811), brother of Andre, Jacobin, and scrved in the legislative assembly for a period of thirty years. He was both a poet and dramatist with a large output of work. C. was with a large output of work. A war a keen politician with Democratic principles, which accounts largely for the popularity of his tragedies, chief amongst which are his Charles XII., Henry VIII., La Mort de Calas et Timolom. He became a member of the convention, and was on the council of 500. He was distinguished for his satires, amongst which may he mentioned his Epilre à Voltaire.

Chenoncenux, a vil. in the dept. of Indre-et-Loire, situated in Central France and watered by the R. Cher. Central Its châtenu, situnted on the right hank, is of great historical interest. It was built in 1515 in Renaissance style, and passed through many lands until it was eventually sold as private property. Claude Dupin, celebrated

Chenopodiaceæ, a fairly large genus of Dicotyledons, contains numerous species used either for culinary purposes or for the manufacture of soda; spiuaeh, beet, oraeh, goosofoot, sea-blite, and salt-wort are examples of the order. All are characterised by their salt-loving ten- publications remain, one, the first book deneies. and frequent

Most of the plants are with dense inflorescences There is usually flowers. persistent periantb of sepa

one to five in number, the stamens typically equal the perianth-leaves in number, the overy is superior and unilocular with a single campylotropous, hasal ovule: there are no stipules, and the fruit is a nut or an

nehene.

Chenopodium, an important genus of Chenopodiaece, contains numerous plants growing in a temperate elimate, and many of them are en-dowed with extraordinary names, e.g. fat hen, lamb's quarters. There are nine British species, usually known as goosefoot, which grow in waste places as weeds; they are insipid and of little value, but the leaves and young shoots results. Ch. bonus - .

Engl Honry, Eng spinach, is

which the shoots are oaten like asparagus. Ch. olidum and Ch. vul-varia are both known as the stinking goosefoot, and Ch. album is the white or common gooscioot, an annual plant which eats like spinach. Quinoa, the eclebrated quinoa Peru, is an important food-plant of S. America; it is grown on land where neither barley nor rye will ripen, and the seeds are used much as is rice in Ch. anthelminticum (or ambrosioides), the worm-seed or Mexican tea, has an aromatic odour: in medieine It forms a well-known vermifuge. and as an article of diet it takes the place of tea.

Chen-yuan-fu, a tn. in the prov. of Kweieliou, China, 100 m. E.N.E. of the capital, Kweiyangfu. It is noted for its gold and copper mines. Cheops, King of Memphis, Egypt, It is

and reigned second in the fourth dynasty of Manetho; eelebrated for being the builder of the Great Pyramid. This colossal sepulchre was built at the eost of much human suffering, and at enormous expense. One thousand men were employed every three months in ereeting this stupendous monument which was not completed till ten years after.

Chepman, Walter (c. 1473-1538), a printer and merehant of Edinburgh, one of the first Scottish printers. He does not have and cannot give a

for his hospitality, owned it for a was introduced to the court of James IV., and was trained as a elerk and writer under Panter, the royal secretary. C. and Andrew Myllar were granted the sole patent to print books in Scotland (1507). They set up their printing-press (the first in Scotland) at the foot of Blackfriars Wynd in the Cowgate, Edinburgh. Two of their

> Introduction of the 1827: Dlekson, Art of Printing into Scotland, 1885.

> Chepstow, a scaport tn. of Mon-mouthshire on the R. Wye, near its junction with the Severn. The town junction with the Severn. lies on a slope between steep eliffs. surrounded by scenery. It possesses the ruins of a castle which sustained several sleges during the Great Rebellion, and in its nelgbbourhood are the romains of the famous Tintern Abbey. The Wye Is erossed near here by Brunel's tubular suspension bridge, and here occur the suspension bringe, and note of the highest tides in the British Isles, the water somotlines rising fifty feet above low level. Some shipbuilding is on, and the chief exports are

 iron, eoal, eider, and mill-Pop. (1911) 2953. drawn out by a person who has money in the bank, and payable on presentment by the person to whom the C. is written out or by the bearor. The rules with regard to a ball of the control o bell of exchange (q.v.), defined in the Bill of Exchange Act, 1882, are also applicable to Cs. A C. must bear a penny stamp, and must be signed by the drawer. Before payment, it must be indorsed on the back by the reeipient. It must be presented within a reasonable time. A banker is liable for a forgery of the drawer's signa-ture, but is not held responsible in ease of a forged indorsement. He is bound to pay the C. on demand, except in cases when the drawer has previously given notice to him not to pay on his account, or when the drawer has died or committed un act of bankruptcy. In England Cs. may be crossed in order to lessen the risk of loss by theft or fraud. A crossed C. has two parallel lines drawn across it, in which may be written a particular banker's name, or merely the words '& Co.' In the former case, it is said to be specially erossed, and will only be paid through the banker mentioned. When it is generally erossed, it is payable only through a bank. If the words 'not negotiable' are added, the person taking the cheque

hetter title to it than that of the in area with a minimum depth of person from whom he took it. Cs. water of 30 ft. Adjoining are dry are returned, after paymen banker to the person who rds in France. The hay

Cher, a Fr. riv. ahout 220 m. long, flowing generally N.W.. and joining the Loire about 12 m. below Tours. It is navigable from Vierzon. The river gives its name to the central department of France. The climate of the department is temperate; the surface generally level and well wooded; the soil fertile and pro-ductive of eorn, wine, fruit, hemp, and Horses, sheep, and cattle are reared, and bee-keeping is a popular industry. There are iron and coal mines, and quarries of marble. The mines, and quarties of mathie. The chief manufactures are woollen goods, cutlery, porcelain, brick, and glass, but the chief occupations are agriculture. C. is divided into three arrondissements: Bourges, Saint Amand, and Sancerre. The capital is Bourges. Area 3770 sq. m.; pop. (1891) 359,276; (1996) 343,484.

Cherasco, this com. lies in Cunco, a southern prov. of Piedmont, which is situated N.W. of Italy. The principal industry is silk-weaving. One of the towns was embroiled in the Napoleonic wars, when its fortification of the towns was embroiled in the Napoleonic wars, when its fortification of the towns was embroiled in the Napoleonic wars, when its fortification of the Napoleonic wars, which was a supplication of the Napoleonic wars, when its fortification of the Napoleonic wars, cations were razed to the ground hy French troops in 1801.

Cherbourg, a fortified seaport tn. and naval station in the dept. of Manche, France, situated at the head of the peninsula of Cotentin, 85 m. W. of Havre. It has trihunals of the first class, and is the seat of a sub-pre-

fecture. It is the headquarters of. of the five naval arrondissements .

France, and possesses a lycée an naval school. Its principal indus... is centred in the works of the dockyard, but there are manufactures of hosiery and laec, chemicals and leather, as well as sugar and salt re-fineries, sawing and flour-mills. C. is supposed to occupy a Roman site. and to be a corruption of Casaris Burgum. In the 11th century, under the name of Carusbar, it was a favourite resort of the Norman kings of England. In 1686 Vanban planned of England. In 1909 vanish planned the harbour-works, which were continued under Napoleon I., but not finally completed until 1856, when they were formally inangurated by Napoleon III. in the presence of Queen Victoria. Thirty years later the government expended 49,000,000 francs on the construction of fresh the government expended 45,000,000 others being very dark. Its religion francs on the construction of fresh is of a mixed elaracter, elements of works. The commercial and naval ports are quite distinct from each other. The latter consists of three basins cut out of the rock, 55 acres two tribes formed the royal body-

come of the largest ship-

banker to the person who drew them, and, as every on the N. by a huge dorsed with the receiver's name, it is digue, or breakwater, 21 m. from the evidence of payment in the absence larbour, over 2 m. long, 650 ft. wide of a proper receipt. The passages for vessels on the E. and W. of the 'digue' are protected hy batteries, the chief being Fort National with 100 guns on the He de Pelee, and there is a fort in the centre of the breakwater. A series of coast redoubts and large fortifications hehind this outer ring of defence

nehind this outer ring of defence render C. almost impregnable from the sea. Pop. (1906) 35.710. Cherbuliez, André (1795-1874), soo of Abraham C., a well-to-do book-seller, born at Geneva. He took up a scholastic career, and received the appointments successively of the professorship of Latin and of ancient literature at the Genevan Academy.

He wrote De Libro Job.

Cherbuliez, Antoine Elisée (1797-1869), a famous political economist, and professor of law at Geneva. He was opposed to the Socialists, and wrote among other pamphicts, De la Démocratie en Suisse, 1843; and

De la Démocratie en Suisse, 1843; and Précis de la Science Economique, 1862. Cherbuliez, Joël (1806-70), followed his father's trade of hookseller, and edited the Rerue Critique.

Cherbuliez, Victor (1829-99), son of André C., and distinguished for his interesting works of fiction. He was horn at Geneva, and studied philosophy, philology, and mathematics, visiting the following places in the course of his studies, viz. Paris. Bonn. course of his studies, viz. Paris, Bonn. and Berlin. He was first a teacher, and

Brohl d Cie, 1877; Noirs et Rouges, 1880; and Le Secret du Précepteur, 1873, most of which appeared in the Revue des Deux Mondes. He also contributed political and serious articles, such as L'Art et La Nature, and L'Espagne Politique (1874). His works are very popular in other lands.

Cherchell, a seaport about 55 m. distant from Algiers in Algeria, with many buildings of ancient historical interest, proving the existence of previous towns on the same site.

Cheremisses, a Finnish race settled in some parts of Eastern Russia. It is very exclusive, and is composed of two different types, some being fair and others being very dark. Its religion is of a mixed character, elements of Christianity being mingled with

guard of King David, and were probably Philistines. The Gittites, who last Philistines. The Gittites, who with these two other tribes in serving Soudan, 1882-88. C. was governoras a protection to the king. It has been suggested that C. is another torm of Carites or Cretans, for it is form of Carites or Cretans, for it is suggested that the Philistines came from Caphta, which is identified with Crete. These tribes were particularly loyal to David in all his manifold dangers. Proceeding further along in scripture, the officers of the Carites were instrumental in bringing about Athalia's downfall, and in gabout Athalia's downfall, and in control of the Ukraine (S.W. or covernment of the Ukraine (S.W. or covern ing about Athalia's downfall, and in

Cherimoyer, or Cherimolia, the edible fruit of a Peruvian downy-leaved species of Anonaecæ elosely allied to the custard-apple of the parts of S. America.

Cheriton, a parish of E. Kent, England, 3 m. N.W. of Folkestone, of which it may he said to form a snhurb. Pop. (1911) 7576.
Cherkasi, or Cherkasy (Polish Czerkasy), a tn. of Russia, in the government of Kiev. It is situated on that he of the siver Disposer. on the r. b. of the river Dnieper, 96 m. S.E. of Kiev. It was an important town of the Ukraine, under Polish rule, till 1618, the year of the revolt of Chmichnicki. In 1795 it was annexed by Rassia Agriculture is annexed by Russia. Agriculture is the chief industry; there are dis-tilleries, and mannfactures of sugar and tohacco.

Cherkask, or Cherkasskaya, a small tn. of Russia, situated on the river Don, 18 m. S. of Novo-Cherkassk.

Pop. 5000.

Cherleria, Cherleria, a genus of Caryophyl-laecæ, nsually included in Arenaria, contains a single species in Britain. This is the eyphel, or C. sedoides of Linnaus; the plant is Alpine, and now bears the name Arenaria Cherleria.

Chermside, Major-General Sir Herbert Charles (b. 1850), English soldier, born at Wilton, and educated at Eton. He entered the army, 1868, becoming of all N. American Indians. Many of eclonel in 1887, and finally major, them have become Christians; they general, 1898. He was military at-

1900. C. became governor of Queensland, 1901, resigning office in 1904. He retired in 1907. Chernigov, or Tchernigov: 1. A government of the Ukraine (S.W. or

making Joash king.

Cherhill, a parish in the co. of Witshire in England, Iying 12 m. S.W. of level, but there is higher land near Swindon. The figure of a horseman is sculptured out on one of the slopes of the chalky hills. Pop. (1911) 231.

Cheribon, a residency possessing a scaport of that name in Java, East a good trade in timber, hemp, a scaport of that name in Java, East to haceo, honey, and wax. Fruit Indies. The district is very fertile, is also grown. Its manufactures are having an extensive task to be considered in the constant of the Ckrame (S.W. or Little Russia). It covers an area of level, but there is higher land near the surface and the constant of the Ckrame (S.W. or Little Russia). It covers an area of level, so the constant of the Ckrame (S.W. or Little Russia). It covers an area of level, so the constant of level, so t Indies. The district is very fertile, is also grown. Its manufactures are having an extensive trade in coffee, linen, glass, and beet sugar, and the naving an extensive trade in coffee, linen, glass, and beet sugar, and the cotton, indigo, and teakwood.

Cherikov, one of the cleven dists, late, and alum. 2. A town and an in the government of Mohilev, N.W., Russia, and situated on a tributary of the river Dnieper.

Cherimoyer, or Cherimolia, the Cherimoyer, or Cherimolia, the Cherimoyer, or Cherimolia, the latered was a terror of the Dneiper. There are extensive for the making of candles. factories for the making of candles, soap, bricks, carriages, and cables, and there is also a brewery. The W. Indies. The fruit is obtained from and there is also a hrewery. The Anona Cherimolia, and is much chief trade is in salt, sugar, cereals, esteemed by the people of the western stone, and wood. Interesting excavations were carried on near hy he-

tween the years 1873-7. Pop. 27,000. Cherokee, in Iowa, U.S.A., on the Little Sioux R., and 50 m. from Sioux City. Noted for its medicinal springs.

Pop. 4000.

Cherokees (native Tsalagi, cave people), a tribe of N. American Indians of the Appalachian stock, numbering (1996) about 25,000. They formerly possessed a large tract of land on either side of the Sonthern Appalachian Mts., which they cultivated as excellent and prosperous farmers. They sided with the English in most of the different property. in most of the disputes between the European colonists and with the Royalist party in the revolutionary war. The failure of the Royalist party led to their subjugation by the new republic and the loss of a large part of their territory. The increasing number of white settlers led to dis-putes with the original owners of the notes with the original owners of the land, and those who had not already moved were driven to their present position in the N.E. corner of Indian territory W. of the Mississippi, hy General Winfield Scott in 1838. A few still survive in N. Carolina. The C. are considered the most civilised of all N. American Indians. Many of

Guess, or Sequoyah, a half-breed. Until 1906, when tribal rule virtually ceased, they had a constitutional government, consisting of an elected chief, a senate, and a house of repre-sentatives. Their capital is Tahlequah.

Cherra Punji, a vil. in E. Bengai and Assam, India, in Khasi Hills. It has the heaviest known annual rainfall in the world, the average for twenty-five years being nearly 500

in. per annum.

Cherry, the name applied popularly to Cerasus, a sub-genus of the rosaccous genus Prunus, to which helong the plum, apricot, almond, sloe, and other well-known fruit-hearing trees. Tho C. trees differ from the plum trees very slightly, and there is little to distinguish them from one another beyond the folding of the leaves in the hud—in the C. they are flat, in the plum rolled up. The fruit in hoth cases is stony and is termed techni-cally a drupe. From early times the cally a drupe. From early times the C. has been entitivated for its edihie fruit and Lucullus, the epicure, is said to have brought it into Europe. C. (or P.) Avium, the wild C., gean or hedge-herry, and C. vulgaris (or P. Cerasus), the common dwart or Morello C., are the two species from which all the British varieties are helioved to have heen derived. The which all the British varieties are helioved to have been derived. The former is a native of W. Asia and the woods of Europo, while the latter aequires a very largo size in the woods of Asia Minor. C. chamæcerasus, the ground-C., a dwarf species, never rising above 3 or 4 ft. high, is common to Lower Austria Hungary and to Lower Austria, Hungary, and Siberia; C. nigra, the black American C. is a bandsome tree with looso umbels of pinkish flowers; C. serumbels of pinkish flowers; C. serrulata, the fine-toothed C., is n native
of China, and in our gardens hears
double flowers; C. depressa, the sand
C., grows well in N. America, and in
Britain is a bandsomo, but shortlived busb; C. prostrata, the spreading C., is a small prostrate bush which
brightens the rocks of Dalmatia,
Conde and Asia Minor with its nin. Candia, and Asia Minor with its pink blossoms; C. (or P.) Japonica, the Japan C., is a heautiful plant with double flowers which appear in our country in March. In all the above species of true Cs. the leaves come out later than the flowers, but in the hird Cs. the racemes of flowers appear after or at the same time as the leaves. of these may be mentioned C. Mahaleb, the Mnhaleb or perfumed C., a sweet-smelling shrub with a bitter and nauseous fruit; C. Padus, the common hird C., a species which grows wild in the woods and hedges of Central Europe; C. Virginiana, the choke C., a large tree with shining deciduous leaves, used in cahinet-

characters invented in 1821 by George | making in N. America; C. Capollim, the Capoliim or Mexican which has a pleasant-smelling fruit, and the hark is reputed to be a valuable febrifuge. The C. laurels are allied to the bird Cs. and true Cs., and are distinguished from thom by having evergreen leaves and long racemes of flowers which appear with the leaves. C. Caroliniana, the overgreen or Carolina C. jaurei, is an ornamentai tree with poisonous leaves; C. Laurocerasus, the common or hroad-leaved C. laurel, is a hardy evergreen much cultivated in British shrubheries and is remarkable for the amount of hydrocyanic acid scereted in its leaves; C. Lusitanica, the Portugal laurel, a native of Portugal and the Canaries, flourishes in Britain, where it is readily propagated from its ahundant fruit

Cherso, a long and narrow island of Austria in the Gulf of Quernero. Sheep are pastured there, and its chief products are wines and fruit. It covers an area of 127 sq. m. About half the pop. live in the chief (cathedral) town of Cherso on the W. side, the chief industries there heing fishing and heat-huilding. Pop. of entire place

10,000.

10,000.
Cherson, see KHERSON.
Chersonesus (Gk. Χερσόνησος, a continent island, i.e. a peninsula), the ancient name of several peninsulas in Europe and Asia, the most important being C. Taurica, or Seythica (Crimea), C. Cimhrica (Jutland), C. Thracia (Gallipoli), C. Aurea (Malay). By the C. the last is georally meant. See CRIMEA, GALLIPOLI, JUTLAND, and MALAY. MALAY.

Chert, a variety of quartz which occurs in limestone in much the same way as flints occur in chalk, thongh it occurs in tabular masses rather than in nodules. Its formation is due to what is called concretion; that is to say, silica derived from sponges passed iuto solution, then filtered down through the calcarcous ooze, down through the calcarcous ooze, and was reprecipitated when conditions were sultable for the deposition of the silica and the solution of the limestone. Thus in certain localities in the limestone the calcium carbonate has given place to silica. C. occurs in a variety of colours (grey, white red value, and brown). white, red, yellow, and brown), is coarser than flint, and is generally more brittle. The coarser varieties are cailed hornstone.

are called hornstone.
Chertsey, a tn. in Surrey, on the r. b. of the R. Thames, 25 m. W.S.W. of London. The river is erossed here hy a seven-nrehed bridge. C. possesses the remains of a famous abbey, in which Henry VI. was buried, and an endowed charity school. Its chief trade is in malt and flour, and in

to understand clearly what C. were supposed to he like, as there are such a variety of notions. According to parts of the scriptures they are

They are supposed to represent the guardians of the house of God, and they symholise His eternal presence. They are also supposed to be the guards of Paradise, and sometimes supposed to he the supernatural steeds upon which the Almighty sets out to deal with mortal affairs. a poetic theophany (Ps. xviii. 10) we see 'upon a cherub' parallel to upon the wings of the wind.' From this one might gather that they were sometimes looked upon as a kind of hird, or possibly as a stormcloud, which gather with the winds. There have always been conflicting ideas as to what the C. are like, for according to the Revelations of St. John they had four faces. Other myths set out a hird-like form, while another version of them is a winged animal type. Probably this latter conception was derived from the drawings of the winged hulls and lions seen on the ancient Assyrian and Bahylonian tombs and houses. If one studies the scriptural description of these heavenly bodies, we can hut notico that the popular idea of a cherub heing the winged bodyless head of a young child is utterly without foundation. The only similarity is that these heads are always depicted as coming out of clouds, but the faces as coming out of clouds, but the faces never correspond with the old notion that they were spirits of the storm-cloud. At all events the C. are now used to adorn secular places even more than religious houses, for one often sees them in the ceilings of public halls. Seemingly they have lost their attraction in the eyes of the religious. religious.

Cherubini, Maria Luigi Carlo Zenobi Salvador (1760-1842), born at Florence, the son of the accompanist at the Pergola Theatre. He began to study composition at the age of nine under the Felicis, and, after their deaths under Bizzari and Castrucci. In 1773 he composed a Mass, and by 1777 his growing success as a writer of church music led to his being sent to Bologna to study under Sarti, who not only taught him well but gave him minor parts of his own scores to finish. From 1780 for fourteen years

garden produce for the London mardramatic Teomposition occupied &C. ket. Charles James Fox lived at St. In 1784 he visited London, and pro-Anne's Hill, a mile away, and the poet duced La Finta Principessa, and Cowley died there. Pop. (1911) 13,316. Giulio Sabino. In 1788 he produced Cherubim, the plural of the Hebrew wordeheruh (kērāb). It is very difficult 1786 Paris was his home, and he produced there are the produced there are the produced there are the produced and there are the produced there are the produced there are the produced and there are the produced there. dneed there Demophon, Lodoiska, Elisa, Médée, Les Deux Journées, Anacreon. In 1801 he produced Faniska at the Imperial Theatre Vicnna. In 1815 he composed an overture and a symphony for the Philhermonic Society, London. In 1833 he produced his last work for the theatre, Ali Baba. Henceforward he devoted himself to church music, and his Requiem in D Minor (1836) is one of his finest works. As a composer he is, with Gluck, the chief glory of the French classical music, but as a teacher his influence was harmful in restricting his pupils by the narrow rules of an earlier age. Beethoven greatly admired him, and was in-fluenced by his Deux Journées in his opera of Fidelio, but C. neither under-stood nor appreciated Beethoven and his intolerance of fixed rules. He said of him, after meeting him in Vienna (1801), 'Il était toujours hrusque,' and of his musie, 'it makes me sneeze.' Mendelssohn was the only young contemporary whom he openly praised.

Chervil

praisea.
Chéruel, Pierre Adolphe (1809-91), a French historian, horn at Rouen. He hecame professor of history at Rouen Collego and then principal of the normal school in the same place in 1849. In 1866 he was made professor of history at the Strasshurg Academy; and in 1874 he occupied the same position in Poitiers. His writings are very reliable, and contain writings are very reliable, and contain much that is of interest. His principal books are Dictionnaire Historique des Institutions, Mœurs, et Coutumes de Institutions, Alœurs, et Coutumes de la France, a work of two volumes. Then his Histoire de France pendant la Minorité de Louis XIV. Is in four volumes. He also edited the Lettres du Cardinal Mazarin (six volumes) and the Mémoires de St. Simon and the Mémoires de Malle de Montpensier.

Cherusci, an anct. German tribe occupying the basin of the Weser, N. of the Harz Forest. They were under Roman rule in 11-9 B.C., and are mentioned by Cæsar. In A.D. 9 Arminius, a prince of the C., revolted and destroyed the Roman report and destroyed the Roman general Quintilius Varus and his army, and Quintilius varus and his army, and in vain Rome tried again to subdue them. Their prestige was wrested from them towards the end of the 1st eentury A.D. by their neighbours, the Chatti, and their territory was later occupied by the Saxons. (Tacitus, Annals, 1, 2, 11, 12, 13.) Chervil, the name of several species of umbelliferous plants, distributed

throughout various genera. Scandix his invention. In 1737 he retired or Anthriscus cerefolium is a little-from practice owing to the jealousy cultivated annual, a native of S. of his colleagues, and died of applexy Europe, with slightly aromatic leaves which are used in soups and salads. Anthriscus sylvestris is a common weed found in woods. Charophyllum weed found in Woods. Charopytatin temulentum, the rough C., is a species occurring wild in Britain, and Ch. tuberosum, the turnip-rooted C., is grown for its carrot-like roots which are eaten after the manner of carrots. S. pecten Veneris, the Venus comb, or shepherd's needle, is a European plant which bears very large fruit, and their dehiseence is by a powerful jerk. Cherville, Gaspard Georges Pescow,

Marquis de (1821-98), was horn at He was a collahorator of Dumas père, but he wrote indenendently a number of hooks on country life and sport. He also wrote Au Village, Légendes et Croquis Rus-tiques in 1887, and Les Chiens et les

Chats in 1888.

Cherwell, River, a trib. of the Thames. It rises in the S.W. of Northamptonshire and flows S. for 30 m. through Oxfordshire, joining the main

stream at Oxford.

Chesapeake Bay, in Maryland and Virginia, and dividing the former into two parts, is the largest inlet on the Eastern coast of the United States, extending 200 m., with a width of from 4 to 40 m., from the mouth of the Susquehanna R. southward to Hampton Roads. Its entrance has Hampton Rodos. Its entrance has on its N. side Cape Charles, and on the S., Cape Henry. 12 m. apart. The land on elther side of the Inlet is greatly indented, and receives the rivers Susquehanna, Potomae, Rappahannoek, and York on the W., and James on the S.W., all navigable rivers. The water is so deep that the ally washed by the occan.
Cheselden, William (1688- ...

born at Somerhy in Leieester He studied anatomy in London

Cowper (1666-1709), and in 1711 began to give lectures on the mines, and copper and lead are also papers, one of which recounted the sensations of a boy of fourteen on recovering his sight through the formation of an 'artificial pupil' after being blind from infancy. In 1713 he published Anatomy of the Human Body, long the standard book or the cubiot. He was successed on the subject. He was surgeon at the St. Thomas', St. George's, and Westminster hospitals, and his skill

Chesham, a mrkt. tn. in Bucking-hamshire, England, 26 m. W.N.W. of London, is pleasantly situated in the valley of the R. Chess, and shut in by wooded hills. It manufs. strawplait, sboes, wooden wares, and paper. The Chess is noted for its water-eress and trout-fishing. Pop.

of par. (1911) 8204.

Cheshire, a eo. of England, hounded on the N. by the Irish Sea and the Mersey, and on its other sides by the shires of Lancaster, York, Derby, Stafford, Salop, Flint, Denbigh, and by the estuary of the Dee. Its greatest length from N. to S. is 48 m., breadth from E. to W. 32 m., total area (of land and water) 1027 sq. m., 76 per cent. of which is under cultiva-The surface of the county tion. The surface of the country, except on the extreme eastern and western horders, is level, well-wooded and studded with small lakes or meres. The plain rests on red sandstone, crossed by a ridge some 370 ft. hlgh, running from N. to S. The chief rivers are the Dee, Mersey, and Weaver, all navigable. In addition there is a splendid system of canals—Cheshire contains the greater. canals-Cheshire contains the greater part of the Manchester Ship Canaland an excellent service of railways. The soil is chiefly clayoy or sandy loam with marl and peat, and Is very fertile. The elimate is moist and temperate. The land is divided into grazing and dairy districts, which provide the chief occupations. Cereals grow well here, especially oats, but the chief product of the county is its rivers. The water is so deep that the ebesse. Cotton and woollen goods, largest ships can proceed almost to silk, and lace are manufactured at the the mouth of the Susquehanna, and towns near the Lancashire and York-Baltimore and Washington are virtu- shire boundaries. One of the most Cheshire is

mines in the near Northfrom 20 to merous coal-

self began to give recedires on the limites, and copper and lead are also subject. He was elected a Fellow of found. Chester is the capital, and the Royal College of Science in 1712, and published a series of interesting Macclesfield, Stockport, Congleton, papers, one of which recounted the Crewe, Northwich, and Stalybridge, sensations of a boy of fourteen on The country is divided into cight parliamentary divisions, each returning one member. C. contains numerous antiquities; Roman roads, tunull, barrows, remains of religious houses, and many old eastles and manors. Egbert in 828 added C. to the Angler and the Conqueror made it a county as an operator has seidom been surpassed. The 'lateral' operation for independent parliament and eight lithotomy as it is now practised was barons. Henry VIII. subordinated it

to the English crown, but the county | via the Euphrates, but the French of C. did not send representatives to and Russian opposition was so great the English parliament until 1549.

Pop. (1911) 954,779.

Cheshunt, a par. and a vil. in Hert-fordshire, England, on the Great Eastern Railway. It is situated on the R. Lea, 14 m. N. of London. In 1792 the Countess of Huntingdon founded a college here, known as Cheshunt Theological College. torically it is interesting, as Cardinal Wolsey stayed for a time at Cheshunt Great House, and Richard Cromwell died at Pengelly House in 1712. Pop. (1911) 12,954.

Chesil Bank, or Beach (A.-S ceosol, pebble-bank), a eurious shingle beach on the coast of Dorset, England. runs 18 m. S.E. from Abbotsbury, and ends in the so-called isle of Portland. At Portland end the height of the bank is 35 ft. above spring tide level, and is 200 yds. broad. A peeuliar fact about it is that the pebbles decrease in size from 1 to 3 inches in diameter at Portland to the size of

diameter at Formand peas at the western end. Chesme, or Tehesme, a small sca-cio Minor, 40 m. from port in Asia Minor, 40 m. from Smyrna and opposite the Island of Scio. The Turkish flect was burned here in 1770 by the Russians under Orioff and the English under Admiral Elphinstone and Sir Samuel Greig. The town suffered extensive damage from earth and in 1881 Page 6000 from carthquake in 1881. Pop. 6000.

Chesné, André du (1584-1640), a French geographer and historiographer to Louis XIII. He was horn in the province of Touraine and became famous for his historical and philological learning, which won him the name of 'father of French history.' The work for which he is best known is his valuable collection of the oldest French ehronielers, Historiae Francorum Scriptores coatani, ab Gentis Origine usque ad Philippi IV. tempora, of which he edited four volumes, and his son published the fifth after his father's death. He published many other historical works, among tbem a history of England. Chesney, Charles Cornwallis (1826-

76), a professor of military strategy at Sandhurst, and a nephew of the explorer, Francis Rawdon C. He held the position of chairman of Sandhurst in 1861, during which time he acquired fame for his 'Waterloo

Lectures 'delivered there.

Chesney, Francis Rawdon (1789-1872), an English general and explorer, was born in co. Antrim, square. Two squares in front of the Ircland. It was his report, drawn queen's rook is the queen's rook's third square. Similarly Q R 4 isthmus of Suez, that made De Lesseps project his canal scheme. The one great wish of his life was from the piece before which they to have an overland route to India. Thus, in front of the queen's

that the idea was abandoned. eonnection with the scheme, however, he ~ eys to prove ras navigabl οf his expc

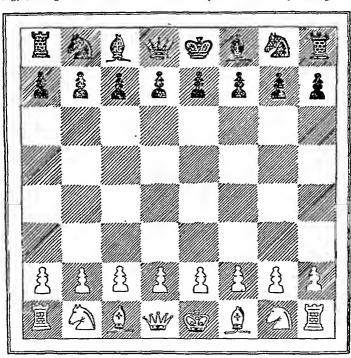
Chess

the Euphrates and Tigris, 1850-68. Chesney, Sir George Tomkyns (1830-95), brother of Charles Cornwallis C. In 1848 he joined the Bengal Engineers, served in the Indian Mutiny. and in 1892 became a general, and entered parliament as member for Oxford. He wrote several novels, The Private Secretary being the known. He also wrote a highly imaginative description of a supposed invasion of England, entitled The Battle of Dorking.

Chesnut, see CHESTNUT. Chess, a game played by two

persous on a board composed of sixty-four squares, alternating black and white, so placed that a white square is on tha right-hand extremity of the board before each player, Thirty-two chessmen are used, sixteen being black and sixteen white. One player takes the black men, the other takes the white, and each arranges his pieces on the board before him as shown in the diagram. Naming them from the white square on the players right, the pieces in the black line are thus arranged: Queen's rook (the rook is known also as the castle), queen's knight, queen's bishop, queen, king, king's bishop, king's knight, king's rook. The front line is composed entirely of pawns. Considering the back line, it will be seen that each piece is directly opposite to an opposing piece of the same denomination; that queen faces queen and that king faces king. The white The white queen is on a white square and tho black queen on a black square. object of the game is to force the king of the adverse party into such a situation that be can neither move nor remain without the danger of being taken by some other piece; for the law of the game, as will be seen later, does not allow of his being aetually captured, but only threatened, and he must then remove, if possible, out of danger. If he cannot, the game is lost. From the accompanying diagram, the names of the various squares on the board may be seen. That in front of the queen's rook is known as the queen's rook's second

rook is the queeu's rook's pawn, in front of the king's knight is the king's knight's pawn, and similarly for the other pieces. It is necessary always remains on squares of the consider now the ways in which the pieces move, as the complicated nature of these moves forms one of the main difficulties for the beginner. The king has the power of moving one square from that which he is occupyof two short moves, a lateral move of ing, so long as the move does not one square followed by a diagonal



expose him to capture by any of the enemy's pieces. Neither the king nor any other piece may move to a square which is already occupied by a piece of its own colour. Thus from his own of its own colour. Thus from his own square the king could move to Q sq., Q 2, K 2, K B 2, and K B sq., but no further by one move. The queen may move any distance in a straight line, either laterally or diagonally, but neither queen, rook, nor bisboy may pass over an intervening piece.

move of one square. Thus, the Q Kt might move to Q R 3, Q B 3, or Q 2. The knight alone has the power of passing over another piece. The 'taking' of an opponent's piece it destroys the contract of the contr is done by moving one of one's own pieces into the square occupied by one's opponent's piece and removing the latter. The pawn can only move in a forward direction (laterally), but neither queen, rook, nor hisbop may pass over an intervening piece.
The rook also can move any distance, but his motion must always be lateral. The bishop, on the contrary, third or fourth square, but after this

first move it can only move forward | the cheeking piece. When he can do one square at a time. Whereas it none of these things he is said to be moves laterally, it can take diagonally checkmated, 'Checkmate' is called, alone. Thus, a pawn on Q 4 may and the game is over. Should a take pieces on Q B 5 and K 5, but player be in such a position that he is stopped by a piece on Q 5. If a player succeeds in getting one of his putting his king in check, but yet his pawns into a square occupied at the king is not in cheek at the moment, beginning of the game by one of his the game is drawn, the result being adversary's back line, he may exclange it for any piece except a king, also results through neither player either a queen, rook, bishop, or knight,

			-				
$\rho R.Sq$	Q.Kt.Sq	p2&Q	pS.Q	K.Sq.	KBSq	PZ.1X.X	७ ८ स प्र
Q.R.8	Q.KL8	QB.8	Q.8	к.8	K.B.8	K.Kt.8	KR8
Q.R.2	Q.KL2	Q.B.R.	ס.ג	SA	K.B.2	K.Kl.2	K.R.2
Q.R.7	Q.Kt.7	Q B.7	Q.7	K.7	K.B.7	K.Kt 7	KR7
Q.R.3	Q.KL3	CB.3	Q.3	K 3	K B.3	R.R£3	E.H.N
Q.R.6	Q.Kt.6	Q.B.6	Q.6	K.6	K.B.6	K.Kt.6	K.R.6
QR4	Q Ke4	₽.8.₽	₽0	F.4	F.B.4	K.Kl.4	₽ ₩ ₩
Q.R.5	Q.KL.5	Q.B.5	Q.5	K 5	K.B.5	K.Kl.5	K.R. 5
Q.R.5	Q.KL.5	OBS	6.9	K.5	R.B.S	१८ स्टब्स	E.R.S
Q.R.4	Q.Kt.4	Q.B.4	Q.4	K.4	K.B.4	K.Kt.4	K.R.4
ORS	Q.Kt.6	9.B.O	90	K 6	K.B.6	KKKL6	KEP
Q.R.3	Q.KL3	Q.B3	Q.3	К.3	K.B.3	K.Kt.3	K.R.3
Q.R.7	O'KT A	L.A.O	r.o	К.7	K.B.7	KKKLY	K.R.7
Q.R.2	Q.Kt.2	Q.B.2	Q.2	K.2	K.B.2	K.Kt.2	K R.2
8.A.O	Q. Kr.8	8.B.9	8.0	8.7	B.B.A	K.Kt.8	8.A.A
Q.R.S	Q.Kt.Sq	QB.Sq.	Q.Sq	K.Sq.	KBSq.	KKLSq	R.R.Sq.

next move, he is said to be in check,

so that he may possibly have two denotes on the board at once. A king, as has been said, cannot be rivilege of castling, yet remains to be mentioned. The operation consists him and ho is in such a position that he might be taken at his adversary's junction with either the king's rook next move he is said to be in check. or the queen's rook, and counts as an and a player putting his adversary's ordinary move. In the first case K king in such a position says 'Check' moves to K Kt sq., and K R moves on doing so. A player whose king is to K B sq. In the second K moves to k his ent move. He must move to Q R sq., while Q R moves to Q sq. while Q R moves to Q sq. while of the king nor the rook havo yet been piece so as to shield the king, or take Note must also he made of a particular method of taking hy the pawn known as taking any the pawn known as taking en passant. It may occur when a white pawn is on a fifth square, say K B 5. If, then, the hlack K Kt pawn or K pawn makes its initial move of two squares (i.e. to K Kt 4 or K 4), it may be taken passant by the white pawn or en passant by the white pawn on K B 5. the white pawn moving to K Kt 3 or K 3 as the case may he. A gambit is a method often used to a pawn or piece, usually a pawn, is sacrificed in order to enable a piece to secure a better position secure a hetter position. There are various gambits, such as king's gambit, queen's gambit, etc., to each of which there is a recognised defence. The various methods of opeoing a game of C. may soon he learnt. White generally makes the first move, and so it is usual for the players to draw for colours. The commonest first move is that of the kings pawn to K 4. The commonest second move is that of K Kt to K B 3, and move is that of K Kt to K B 3, and these two form an excellent opening for heginners. Sometimes the stronger player gives odds to the weaker player to make the game more even. It may consist of the removal of any piece from the stronger player's ranks according to the odds to he given. If a pawn he given, it is almost invariably the king's highoy's pawn. It is not necessary hishop's pawn. It is not necessary to go into further detail as to the methods of playing C. as there are many valuable handhooks to which reference may be made. On account of the interest derived from the infinite variety of its combinations, and from success depending entirely upon skill wholly independent of chance, it has become a favourite game among the educated persons of all nations, and in the course of centuries a vast literature has gathered round it.

first took its rise. A distinct balance of historical tradition inclines to Hindustan. Here it has heen known immemorially under the name of chaturanga, from chatur, four, and anga, a part or member, generally explained neck. . as referring to the four players. The originalmethod of play differed widely from the present one, the develop-

that no piece should intervene Greeks or Romans, hnt was intro-hetween the two, that no square duced by the Arabs into Spain at the passed over should he commanded hy one of the enemy's pieces, and hy one of the enemy's pieces, and tury, and it was known to the cultured that the king should not he in check. time of the Crusades. The first hook printed in England was The Game and Playe of the Chesse, issued by William Caxton in 1475, and this fact shows the popularity of the game. The more masterly treatises on C. begin in the 16th century with the Portuguese Damiano, whose work is, however, distinctly inferior to the treatise by the Rny Lopez, a Spanish clerie, published at Alcala in 1561. By the end of this century, the chief home of the game had shifted to Italy, where the city of Venice had the pre-eminence. Among the names of chess-masters of this period may be named Salvio, Greco, and Polerio. The 17th century is comparatively unimportant, but the 18th century saw a great revival in the study of C. In the N. of Europe the name of Philidor stands alone, and in the S. the names of Ercole del Rio, Lolli, and Ponziani deserve mention. In the 19th century England became the snpreme chess-country, the snpreme chess-country, and Howard Staunton was generally recognised as the world's greatest player. A greater genius, however, Paul Morphy (1837-1884) hy name, arose in America, and defeated the strongest players of Europe. There are now chess clubs throughout the British Isles, and in this country the game has attained to a dignity it has have reached before. The British never reached before. The British Chess Association hinds all the chief clubs together. The game has also spread throughout the colonies. full information on C. and its history, see H. Staunton's Chess Players Handbook, 1847 (new ed. 1889); Chess Praxis, 1860 (new ed. 1889); and Chess Theory and Practice, 1876; Forbes' History of Chess, 1860; 1860: Lowenthal's Morphy's Games Chess, 1860 (new cd. 1886); Free-horough and Ranken's Chess Openings, 1889, and Chess Endings, 1892. See also works by James Rayner History.—The game is of the cotifled The Principles of Chess in greatest antiquity, and much dispute Theory and Practice, 1894; Chess bas arisen as to the country whence it Openings, 1897; and The Art of Chess, 1895.

Chest, or Thorax, an anatomical term for the appermost section of the trunk, or that part of the body which is abov

the cre .

pipe and its braoches, the gullet and the thoracic duct, and is conical in ment of the game continuing until shape, with rounded sides which are the 16th century, when castling, the flattened at froot and back. (For the latest addition, was introduced. The organs of the chest, see the diagram accame was not known to the ancient compacying article on ABDOMEN.) The

upper end is small, slopes downwards | partially destroyed. through the neck, together with certain nerves. The lower end is larger, slopes downwards and backwards, and is enclosed by the diaphragm, which is convex when viewed from above, and which separates the C. from the abdomen. Muselcs radiate from this diaphragm to the body wall, and in respiration, by of these muscles and

flattening of the dlaph The C. is conthe C. is enlarged. structed of twelve pairs of ribs start-ing from the vertebral or spinal ing from the verteval or spinal its streets carred out of the roes we a column, together with the breastbone, the diaphragm, and the intercostal by it 'Rows,' or covered areades, muscles. Since the C. contains the heart and lungs, two of the three 'vital' organs of the body, the other being the brain, it is the seat of a formed are covered and approached large number of the diseases of the human system. The common " ber houses, muscles the seat of a formed are covered and approached large number. The common " by steps from the street. Here are houses, muscles the seat of a formed are covered and approached large number of the diseases of the line and the seat of the seat of the diseases of the large number of the large number of the diseases of the large number of the large n human system. The common of the C., such as pneumonia,

consumption, etc., are really of the lungs and air tubes lacing and rickets, which caus

leather and often very much mented. They were frequently ferred from place to place as pc: luggage. Chests are now often in churches for the reception of ments, plate, and parish record They were equivalent to our st

boxes. Chest, Military, a wooden box about 30 in. by 18 in. by 18 in. with a perfeetly flat lid, and iron-bound corners, which is painted grey, and used in barracks. It is for the personal use of non-commissioned officers and men, and overy man in barracks has

his own chest. Chester, an episcopal city, municipal co., and parl. bor., and the co. tn. of Cheshire. It lies in a low plain on tho r. b. of the Deo, 16 m. s. polarion tho r. b. of the Deo, 16 m. S.E. of Liverpool. C. is of great antiquity, as proved by its name, a corruption of the Roman castrum, a camp. The Romans themselves ealled it Castra Devana after the Dee. In 907 Ethelfleda, the Lady of Mereia, rebuilt the walls which had been logical Seminary are both established

In 973 Egbert and forwards, and contains the gullet set forth on his triumphal progress and windpipe, and those arteries and veins leading from and to the heart kings. From the Conquest to the reign of Honry III. Cheshire was a county palatine and C. the seat of its oarls. arls. In 1506 Henry VII., by the Great Charter, constituted the city a county by itself. In 1553 C. first returned two members to the English parliament, reduced in 1885 to one. C. is the only city in England which retains its town walls intact. are nearly two miles in circuit,

twelve to forty feet high, and with the action of the layer of museles broad enough at the top fer two men eovering the C., which draw the ribs to walk abreast. The four gateways upwards and outwards, the eavity of have been rebuilt at different dates, but part of the old towers remain. C. is unique among English eities by its streets carved out of the rock to a

nber houses, nce House,' 2). The most the ancient 1053, and

tions in the form of the C., outen built with a combination of every cause C. diseases. See Heart, Man, stylo from Norman to Late Perpen-Skeleton, Anatomy, Physiology, dicular (restored 1876), and the church etc. of St. John the Baptist, now outside Chest, a large box made of wood or iron with a hinged lid, that was used founded by Ethelred in 639, was as a receptacle for treasure, records, or made a eathedral in 1075, and is one linen, etc. It is of very ancient origin, of the most splendid examples of being one of the oldest pieces of house-early Norman architecture in the hold furniture. In the old days the country. The chief modern buildings chests wore sometimes covered with are the Town Hall (1869), Grosvenor leather and offer any offer the country.

built at g, at the King's VIII. ı nublic Common

race meeting in May. The old seven-arched bridge over the Dee is very picturesque. The town is very well picturesque. The town is very well served by the London and North Western, Great Western, Cheshire and Great Central Railways, manufactures of lead and paint, furniture, upholstery, tobaceo, boots and shoes, and the iron-foundries are chiefly carried on outside the walls. The silling up of the Dee destroyed C.'s Importance as

Chester, Joseph Lemuel (1821-82), an American antiquarian and genealogist, horn in Norwich, Connecticut. In 1858 hc came to England and gave himself up to research work in con-nection with the genealogical history of American families. He was one of the founders of the Harleian Society and one of its publications was his Registers of Westminster, brought out in 1876. He wrote many other hooks, but his Matriculations of the University of Oxford and his Marriage Allegations in the Bishop of London's Register were brought ont after his death by Mr. J. Foster.

Chesterfield, a mrkt. tn. and municipal hor, in Derbyshire, 24 m. N.N.E. of Derby, on the R. Rother, and a canal connecting it with the Trent. It has manufactures of cottons, silk, lace, hoslery, earthenware, and machinery. In the neighbourhood are iron, eoal, and lead mines. Pop. (1911) 37,406.

(1911) 37,406.
Chesterfield, Philip Dormer Stanhope, fourth Earl of (1694-1773), statesman, courtier, and letter-writer, in his youth was in the household of the Prince of Wales (afterwards George IL). He sueceded to the earldom in 1726, and two years later went as ambassador to the Hague, where he represed with 1722 He statesman, courtier, and letter-writer, in his youth was in the household of the Prince of Wales (afterwards George II.) He succeeded to the carldom in 1726, and two years later went as ambassador to the Haguo, where he remained until 1732. He had formed an intiniacy with Mdlle. Had formed an intiniacy with Mdlle. Mall Gazetle, New Age, and Salurday du Bouchet, hy whom he had a son, but the connection oid not long endure, and in 1733 he married the daughter of the Duchess of Kendal. This was followed in 1910 by Party and Indian Mall Gazetle, New Age, and Salurday Review. His first hook, Gladstomian but the connection oid not long endure, and in 1733 he married the daughter of the Duchess of Kendal. This was followed in 1910 by Party and the People and Nell Guynne, and leader of the Opposition in the House of Lords, and subsequently held important ministerial and diplomatic portant ministerial and diplomatic profits the hulks more largely and the People and Nell Guynne, and in 1911, in collaboration with Mr. Purtan League, mind because of his convention of the Videos (no.), he wrote The Party System. Served on executive appointments. Nowell, the college of the Opposition in the House appointments of Literature and the People and Nell Guynne, and in 1911, in collaboration with Mr. Served on executive appointments. Nowell, the college of the Opposition of Anti-Puritan League, mind because of his convention of Anti-Puritan League, mind because of his convention of the College of the Opposition of the College of the Opposition of the Oppos letters. He was a friend and correspondent of Voltaire, and at one time offered to hefriend Johnson, who in 1747 addressed to him the 'plan' of his dictionary. C. thought no more of Johnson until the publication of that work was announced some years have work was announced seven years later, when he wrote in the World about it, a belated attention which the lexi-cographer rescoted. 'The notice cographer reseoted. 'The notice appointing a committee of inquiry, which you have been pleased to take of my lahours, had it been early, had been kind; but it has been delayed until I am indifferent and cannot enjoy it; till I am solitary, and cannot impart it; till I am known, and do not want it.' So Johnson wrote to him, and the letter has been university released to the shade School to study art. The solitary work however, beginning by reviewing art to his natural son, in which he, the notice

here. It has large shipyards, boiler mostelcgant of mankind, endeavoured and engine works, factories and to teach his son the art of being agree-foundries, etc. Pop. 38,537. graces rather than the morals, and it was the cross of his life that the recipient of his worldly sermons was in nowise improved by them. These letters were published by his son's widow (1774), and were included in Magnor's edition of C.'s works.

Chester-le-Street, a mrkt. tn. in the county of Durham, 6m. N. of Durham city. Its parish church of St. Mary and St. Cuthhert was formerly collegiate, and the village, situated on the aneient Ermine Street, was the seat of the Bishop of Bernicke from 883,005 883-995, under the name of Cune-ceastre. In its neighbourhood are Lambton, Lumley, and Ravensworth Castles. Collieries and iron works are numerous. Pop. (1911) 14.712. Chester Plays, see MYSTERY PLAYS.

Chester Flays, see MISHERY PLAYS.
Chesterton: 1. A par, and vil. in
Cambridgeshire, on the N. bank of
the R. Cam, 1 m. from Cambridge,
and forming a suburb. Pop. 11.534.
2. Par, and vil. in Staffordshire, 2 m. from Burslem, noted chiefly for its extensive colliery and iron works. Pop. 6500.

chair in June of that year. Became a Roman Catholic in 1912. His outspoken and persistent criticism of the circumstances connected with a contract between the government and the Marconi Wircless Telegraph Company lcd to the House of Commons appointing a committee of inquiry, and to the chairman of that

Speaker, and working in a publisher's left for the foundation of a bospital literature as a career, and has contributed largely to the Daily News, tributed largely to the Daily News, tributed largely to the Daily News, the Pall Mall Magazine, Black and White, Daily Herald, The World, The Clarion, The English Illustrated Magazine, The Bystander, The Fortnightly and The Independent reviews, and pamphleteer, son of Robert C., a deer of London. In 1577 he bound and The Illustrated Londan News. Among his works in book form are: The Wild Knight, a volume of verse : Legendant; Greybeards at Play; Twelve Types; Browning in the English Men of Letters series; G. F. Watts, 1904; The Napoleon of Notting Hill, 1904; The Club of Queer Trades, 1905; Dickens, 1906; The Man who was Thursday, 1908; Orthodoxy, 1908; All Things Considered, 1908; Tremenday Defendant; Greybeards at Things Considered, 1908; Tremendous Things Considered, 1905; Tremenaous Trifles, 1909; George Bernard Shaw, 1909; What's Wrong with the World, 1910; The Innocence of Father Brown, 1911; Manalive, 1912; The Victorian Age in English Literature, 1913. They inclind a great variety of types and subjects, but all are characterised by the innectious and unconventional by the impetuous and unconventional personality of the writer.

Chestnut, or Castanca, a genus of Fagaceæ known to the northern hemisphere and cuitivated for the handsome appearance of the species and the economic value of the fruit. sativa, or vulgaris, the Spanish or European C., helps to form dense forests, and the fruit consists of two or three nuts enclosed in a prickly burr; the bark is used in tanning, and the wood is made into furniture and palings. The fruit, called the sweet C., forms a common article of diet in Europe in its raw state, when roasted, or when ground into flour. Asconfectionery they are candied, and receive the name of marrons glacés; the starehy matter contained in them makes them of great value as a food. The horse C., or Æsculus hippocastanum, differs in most important botanical points from the sweet C.; it is a species of Hippocastanaecæ which is cultivated for its stately appe cape

was given to the plant on account of the marks of the leaf-scar which seem like a miniature horse-shoe. The Australian C., or Castanospermum Australian C., or Castanospermum Cheval de Frise, ar Chevaux de australe, is a leguminous plant whiel Frise (Fr. cheval, n horso; de Frise, constitutes a genus is outre constitutes a genus; its outvappearance is unlike Castanea, its outw the roasted seeds taste like those the sweet C.

Chetham, Humphrey (1580-16..., passage against the born at Crumpsall Hall, Manehester, passage against the He was in turn a merchant, a moncy-

lender, and a cloth manufacturer in Alanebester. He amassed a fair amount of money, £7000 of which he

In 1900 he definitely took up for forty poor boys. This was opened in 1656, and the number of boys now

a dyer of London. In 1577 he bound himself as apprentice ta a stationer. In 1592 he published Greene's Groat'swarth of Wit. He found it necessary to repudiate any share in the pamphlet in his Kind Hert's Dream (1592), and to apologise to three persons who were abused in it, of whom Shakespeare is supposed to be ono. In 1595 he published Piers Plainnes Seaven Yeres Prentiship, and between then and 1603 he wrote, or collaborated in, over farty plays. Meres speaks of C. in his Palladis Tamia as one of the lest for Comedy.' His pecuniary difficulties were constant, and are several times referred to by Henslowe in his Diary. Of C.'s own plays only The Tragery of Hoffman was printed (1631). For Troyes Revenge and the tragedy of Polefeme Henslowe puli him fiftye shellenges. In The Pleasant Comedie of Patient Grissill (1599) he collaborated with Dekker, and in The Death of Robert, E. of Hunlingdon, with Munday. In 1603 he published England's Mourning Garment, in which

he alludes to contemporary poets. Chetwood, Knightly (1650-1720), an English divine and writer, born at Coventry, became Dean of Gloucester about 1707. He contributed a life of Lycurgus to the translation of Piutarch's Lives published in 1683, and wrote the Life of Virgil, the preface to the pastorals in Dryden's translation of Virgil (1697), and

several biographies, essays, transla-tions, sermons, and poems. Chetwood, William Rufus (d. 1766), an English dramatist and critic. He was for many years a hookseller in Covent Garden, and later became a prompter at Drury Lane Theatre. His works incinde: The Lorer's Opera, 1729; T

The Sto

1720; Stage, 1749.

mber or six used

advance cavalry. It was first used in the Dutch War of Indopendence at the siege of Groningen in anet. Friesland.

Chevalier, formerly a horseman, or

used by the younger sons of a French moble family. The name is still in use among members of certain foreign orders, such as Chevalier of the Legion of Honour. Prince Charles Edward was known as the 'Young Chevalier.'

Chevalier, Albert (b. 1861), an English eoster eomedian and musie-hall artist, born in London, and the son of a French master at Kensington Grammar School. In 1877 be acted in An Unequal Match at the Prince of Wales' Theatre, taking the name of Knight, and later he was associated with Mr. John Hare. In 1899 he introduced his now famous eoster eomedian sketches and songs at the Pavilion Musie Hall. He has written many plays, sketches, and mono-logues, and one of the former, Tommy Dodd was produced in 1898 at the

Globe Theatre.

Chevalier, Michel (1806-79), an eminent French economist and statesman, born at Limoges. In his early days he trained as an engineer, but in 1829 he joined the Socialist school of St. Simon. He hecame the editor of the Globe, the organ of the St. Simonians, and in 1832 he was arrested, and sentenced to a year's imprisonment on account of certain articles which had been published. He was released after six months, and sent by Thiers to America to inquire into the rallway and water systems there. Later he went on an economic expedition to England, which resulted in the publication of his Desinterels materiels de la France, 1838. In 1840 he was made professor of political economy at the Collège de France. 1n 1851 he published an important book advocating trade; and be, with Richard Cobden. played an important part in securing commercial treaty between rance commercial treaty between France and England, 1860. The same year he was ereated member of the Senate, and for many years took an active part in discussions, until he retired from public life in 1870.

Cheviot Hills, range of hills stretchthe two countries. The larger part of propaga, the two countries. The larger part of propaga, the two countries in the agent to propaga the propaga to the country of Rox- Chevrotain, or Mouse-deer, of the portion being in the county of Rox-burghshire. The highest per Cheviot, 2676 ft. The other Cheviot, 2676 ft. The other forming the range are Cairn

forming the range are Cairn
2545 ft. Hedgehope Hill, 234
Windygate Hill, 2001 ft., Peel
1964 ft., and Carter Fell, 1815 ft. characteristics and habits of some
The range is well covered with grass, rodents. They inhabit Asia, the
and afforda excellent pastnrage for
the flocks which graze on its sides.
Tho S.W. portion of the range consits chiefly of limestone belonging C., which comes from Africa.

a knight; it is also an honorary title to the Carboniferous system, but the highest peaks are of volcanic origin. pointing to the Lower Old Red Sandstone Age. A hngo mass of granite plerces these volcanie formed rocks for about 20 sq. m., forming the highest peak, Cheviot. Chevreul, Michel Eugène (1786-

1889), a French chemist, born at Angers, where his father was a At the age of seventeen physician. he went to Paris, and entered L. N. Vauquelin's College, where he studied with much zeal and success, becoming in time Vanquelin's assistant at the Natural History Museum in the Jardin des Plantes. In 1813 be was made professor of ehemistry at the Lycée Charlemagne, and took charge of the Gobelins tapestry works, where he performed his researches on colour contrasts. In 1826 be became a member of the Academy of Seiences, and was elected foreign member of the Royal Society of London. In 1830 he became director of the Natural History Museum in Paris. In 1886 his hundredth birthday was eelebrated with great public rejoieings, and a grand fete given at the Museum in his bonour. His name is famous for his discoveries of margarine, stearin, and olein, as well as for research work on dves and soap-making.

Chevron (Fr. chevre, a goat), in architecture, a decoration introduced into England in the 11th century, and consisting of a moulding with a zig-zag outline, examples of which are to be tound in Canterbury Cathedral and some parts of Durham Cathedral. It is a common decoration in the Zimbabwe ruins, Rhodesia, and in South Arabia. It is used also on shafts, as in the eloisters of Monreale, near Palermo, in those of St. Paul, outside Rome, and in many German churches. Its first appearance was on the tomb of Agamemnon, at Mycene. In heraldry, C. is one of the ordinaries formed of two bands, joined together at the top, and coming down to the ends of the shield in the form of a ing from N.E. to S.W. between England and Seotland, and covering one, two, or three Cs., and in some as about 35 m. of the border between many as five have been found. It is the two countries. The larger part of

Chevy Chase, the name of a well-delivered the Bampton Lectures at known English border ballad. The Oxford. He was a member of the incidents in the ballad are not founded on historical fact, though it may in part refer to some encounter which took place between its heroes, Percy and Douglas.

Chewing-gum, a preparation made from a gum called Chicle, which is the production of a Mexican tree of the same species as the india-rubber It is sweetened, and various flavouring substances are added to it. It has become a very favourite sweet-

meat in U.S.A.

Cheyenne: 1. The cap. tn. of the state Wyoming, U.S.A., situated near the Laramie Mts. It is a centre of the cattle industry, and coal and iron are Micah and Hosea; Job and Solomon; found in the vicinity. Here is a Life and Times of Jeremiah; The Soldiers' and Salor' Hosea; Micah and Hosea; Job and Solomon; found in the vicinity. Here is a Hallowing of Criticism; Aids to the Library, and

Cathedral. 2. A. which take their rise in Wyoming, and flow N.W. through S. Dakota to join the Missouri, 35 m. N.W. of Pierro. Length of each branch about, 350 m.

Cheyennes, N. American Indians, part of the Algonquin family, and separating in the 17th century from the Arapahoes, forced a way through many fierce Siouan tribes, and after crossing the river Missouri, reached the Black Hills of S. Dakota, from where they passed into Wyoming and Colorado. In 1850 they still infested the tracts of land between the Platte and Upper Arkansas Rs., but now they inliabit only the districts round Montana and Oklahoma.

Cheyne, celebrated

thought of entering the Church, but the eyele being repeated again and finally abandoned the schemo and again. The cause of the condition is studied m Dr. Pitcair

in 1700, at the winter

the summ

many medical treatises.

Cheyne, Thomas Kelly (b. 1841), an English theologian and O.T. scholar, born in London. He was educated at the Merchant Taylors' School, and afterwards went to Worcester College, Oxford. Later lie went to Göttingen. and studied the German theological methods. At Oxford he won the chancellor's medal for the English essay, and in 1869 became fellow of Balliol College. He was appointed rector of Tendring in Essex in 1881, where he remained until 1885, when he was made professor of the Interpretation of Holy Scripture at Oriel College, Oxford, which post also held a canonry at Rochester. In 1889 he

Oxford. He was a member of the O.T. revision company, and joint editor of the Encylopædia Biblica, 1899-1903. He was also in earlier years editor of the O.T. portion of the 'Variorum Bible,' and organised the theological part of the original 'Academy.' In 1908 he resigned his post as professor. He is the author of many books and lectures, the most important of which are: Prophecies of Isaiah, 1880, in 2 vols.; Exposition of Jeremiah and Lamentations, 1883; Book of Psalms, 1888; Introduction to Isaiah, 1895; Isaiah, 1897-99; and others are: Jewish religious life in Post-Exilic Times: Study of Criticism, and Devout Critica Biblica.

William Watson (b. Cheyne, Sir 1853), a Scottish surgeon and author. He was associated at King's College Hospital in London with Mr. Lister, afterwards Lord Lister, his former teacher at Edinburgh. He has written a great number of books on antiseptic surgery, and has also arranged, with Mr. Burghard, a Manual of Surgical Treatment, 1899-1901. He went out as consulting surgeon in the S. African War.
Cheyno-Stokes Respiration, a break-

ing up of the ordinary rhythm of breathing into periods of waxing and waning, occurring in affections of the central nervous systems. The breathing increases in depth until it reaches lower again

hen recom-

once more the respiratory

due to menini, intoxications. eentre is only

when the lу stout, and lived on milkand vegetable blood has become venous; after deep dlet so as to reduce hissize. Published breathing the venous condition is mitigated, so that the breathing becomes shallower and eventually stops, until the consequent venosity of the The blood starts the cycle afresh. , as symptom i exhaustion proceeds

possible. Chhatarpur, the cap. tn. in C. State, Bundelkhand, Central India, situated 120 m. S.W. of Cawnpur. The manufacture of cutlery forms

the chief industry

Chindwara, or Chindwara, a dist. in the Central Provinces, India, with an area of 4630 sq. m. The capital town is C., situated on a plateau rising 2200 ft. above sca-level, and

chhota Udaipur, a state in Rewa Kantba, in Gujarat, Bombay Presidency, India, with an area of about 870 sq. m. The country is hilly, with a thick growth of forest, and the climate in most parts is unhealthy. Chhota Udaipur is the capital.

Chiangur is the capital.

Chiabrera, Gabriello (1652-1637),
an Italian poet, born at Savona, and
founder of the Pindaric sebool of
poetry. Ho wrote many odes, lyrics,
and canzonetti, which are full of
mythologic allusions and affectations,
the error of the times in which he
lived Some of his works have been lived. Some of his works have been translated by Wordsworth. His best work, Rime, composed of lyrical pieces, was published in 3 vols., 1807.

Chia-hsing-fu, a tn. in Che-Kiang, China, on the Grand Canal. It is a very rich town, and is situated in At one the silk industry district. time it was nearly destroyed by the

Taipings.

Chiana, Val di (in Italy), one of the most fertile spots in Tuscany, and ahout 25 m. S. of Arozzo. It possesses a watercourse partly natural, partly artificial. About the end of the 18th century engineering operations were started so that the waters of the R. Chiana should discharge themselves into the Arno as well as the Tiher, thus helping to drain the valley.

Chi-an-fu, or Ki-an-fu, a tn. in Kiang-si, China, situated on a trihu-

tary of the Kan river.

Chiang-yin, or Kiang-yin, a tn. in the prov. of Kiang-su, China. It stands in a strongly fortified position commanding a narrow part of the river Yang-tse-Kiang, distant 80 m. from Sbanghai.

Chianti, a group of mountains in Italy, near Siena, belonging to the Apennines. The slopes are occupied by vineyards, olive and mulherry plantations, and a celebrated wine

takes its name from it.

Chiao-Chou, or Kiao-Chou, a tn. in Shan-tung, China. The bay and surrounding coast were leased for ninetynine years to Germany in Jannary 1898. In April of the same year, the territory, which amounted to about 200 sq. m. in area, was declared a German protectorate. The bay is about 15 m. in length, and in it are several small islands.

Chiapas, a dist. in the Pacific State, Mexico, bounded on the W. side by Vera Cruz and Oaxaca. It is moun-tainous, especially in the N. and S.E., one of the highest peaks being Tacana, 13,940 ft., an active volcano, and another, the Soconusco, 7450 ft. tho E. sido stretches an undulating plateau, well wooded, with a plentiful

70 m. N.W. of Nagpur. The climate farming flourish, and stock-raising is generally considered healthy. an important industry. The capital

town is San Cristobal.

Chiaramonte, a tm. of Sieily, situated 30 m. W. of Syracuse; it is noted for its wine trade. Pop. 9000. Chiari, a tm. of Italy in Lombardy, 14 m. W. of Brescia. In 1701, Prince

Eugene of Savoy here defeated the French and Spaniards. There are manufactures of silk and twist. Pop.

Chiari, Pietro (1700-88), an Italian writer, who was born and died at Brescia. He started his career as a Jesuit priest, but soon hecamo a writer of plays, of which he produced sixty in twelve years-Commedie (10 vols.), 1756-62; Nuova Raccolla, 1762. Being full of absurd intrigues and plots, and abounding in irregular invention, his plays have long since

been forgotten.

Chiarini, Giuseppe (b. 1833), an Italian poet and critic, born at Arezzo. For some time he was the director of the lyceum at Leghorn, and in 1834 was made director of the Liceu Umberto I. at Rome. His poems are full of charm and tenderness, especially his In Memoriam, 1875, and Lacruma, 1879, and the influence of Carducci is felt, whose principles he strongly advocated. A complete edition of his works was published in 1902. The Studi Shakespeariani is a collection of his papers on Shakespeare.

Chiaroscuro (Lat. elarus, bright, and obscurus, dark), in painting, a term used to express the art of reproducing colour in light and in shadow, so that the one is always present in the other. It is C. which gives perfect proportion to a picture, and only the great masters, such as Rapbacl, Titian, Correggio, and Rembrandt, have attained to it.

Chiastolite, a variety of the mineral andalusite (q.v.), which consists of silicate of alumina. Crystals of C. are long, narrow, and grey or white in colour. When broken across they often exhibit a cruciform pattern, and cut and polished crystals, giving a black eross on a lighter ground, are often worn as amulets by Spanish peasants. This pattern is caused by the fact that the outer portion encloses a darker one of regular geometrie form. C. Is met with in certain slates altered by the intrusion of igneous rock.

Chia-ting-fu, or Kia-ting-fu, in Sze-

chia-ting-1d, or Kla-ting-1d, 11820chinen, China, a tn. situated on the
r. b. of the R. Min, where it joins the
Ta-tung R. It is the centre of the silk
weaving industry.
Chiavenna (In Italy), a tn. in Lombardy on the little R. Mera, not far
from Lake Como. It commands a water supply. Agriculture and fruit view of the famous Splügen and Maloga passes, and is looked upon as | quarter of the city lies in the S., and one of the keys of N. Italy. The Splugen route runs N. from Chiavenna to Coire, and a new road was made by the Austrians in 1819. Celebrated for its breweries, and carries on active trade with Switzerland.

Chia-yu-kuan, a tn. of Kansu in China, situated at the western end of

the Great Wall.

Chiba, a city of Hondo, Japan, situated on Tokio Bay, 20 m. E. of Tokio. Pop. 26,000.

Chibchas, or Muyscas, one of the eivilised nations of S. America, wbosc kingdom at the time of the conquest consisted of the Platean of Cundina-marca, and some surrounding dis-tricts of Colombia. The nation was divided into two separate states. which were hostile to one another. One was governed by the 'Cipa,' or king, of Bacata, and the other by the 'zaque,' or lord of Ramiriqui and Hunsa. Their total population amounted to over one million. They now no longer exist, having been overthrown in 1538. Evidence of their great culture is seen in their stone tempics, highways, statues, suspension bridges, and their beautiful gold and silver work, also their weaving and dyeing.

Chiea, colouring matter of an orange-red shade which is obtained from a native plant (Bignonia Chica), and made into a pigment by the Indians of the Upper Orinoco and Rio Negro: it is used by them to adorn their bodies. The name is also used for a beer made in S. America.

Chicacole, a tn. of British India, in the Gaojam dist, of the Madras Presidency, situated on the R. Lan-guliya. It was once famous for muslins, but the industry is no longer

Carried on. There are several old Mohammedau mosques. Pop. 18,500. Chicago, the cap. of Cook eo. in the state of Illinois, U.S.A. It lies on the extreme sonth-western shore of Lake Michigan, its lat. being 41° 53' N., and its long. 87° 37' W. Its distance W. of New York Is about 911 m., and N.W. of Washington about 100 m. less. The city occupies an important position, being a large railway centre, and consequently carrying on an enormous trade with other large places, so that it is now the second city of the United States. The area of C. is about 190 sq. m., and it is built along the shore of Lake Michigan, extending for about 25 m. along the lake front. The land on which it is built is extremely flat,

has a number of fine streets, among the largest and most important being State, Madison, La Salle, Clark, Wabash Avence, and Dearborn, while Miebigan Avenne, Grand Boulevards. Drexel and Lake Shore Drive, are some of the principal ones in the residential quarter. Here the houses are mostly built with a frame-work of steel, as in the case of those used as offices, the latter towering up to tremendous heights, and accom-modating at the same time a large number of people. Among the most important buildings in the business quarter may be mentioned Chamber of Commerce, which be mentioned the fourteen stories higb. The City Hall and Court House is a double building, the erection of which cost considerably over \$4,000,000, and close to it is a statue of Columbus. Others of considerable importance are the Board of Trade, a granite building Board of Trade, a granite building with a tower over 300 ft. high; the Rookery, the Tacoma, the New York Life Insurance Building, and the Illinois Trust and Savings Bauk. The new Federal Building, occupying a complete block, is situated quite close to the Great Northern Hotel, the Manhattan, the Monadnock, and the Monon, four immense buildings, while the offices of Marshall Field & Company, the Masonic Temple and Company, the Masonic Temple, and many theatres and concert halls are also worthy of note. In addition to these is the Auditorium, containing a theatre and a hotel, the Art Institute, eontaining a valuable collection of pietures and Public Librar: . . Society, and The Chicago

from 1892, bas been endowed by Mr. Rockfeller and bas faculties of science. arts, commerce, and law. There are also many other educational buildings, including schools of theology, medicine, law, and several others. C. is well provided with parks, occupying in all over 2000 acres and connected by means of the boulcvards. The chief of these are Lincoln Park at the end of Lako Sboro Drivo and containing a statue of Lincoln; Washington Park, which is connected with Jackson Park by the Midway Plaisance, the latter park being the site of the World's Columbian Exposition in 1893. The Field Columbian Muscum is also situated in this park. Among the W. side parks are Donglas Park; Garfield Park, which which it is built is extremely flat, possesses a conservatory; Humboldt scarcely rising above the level of the Park; and Lake Front Park, which lake. The C. rivers divides it into joins the business quarter of the town. districts known as the N., W., and S. There are also many hospitals and parts, characterised by long, regular, instintions of various kinds in this and straight streets. The business eity, the chief one being Cook County

Hospital. The other institutions include Armour Institute, Hall House, a social settlement planned on the lines of Toynbee Hall, and many asylums, nurscries, and homes. The water supply of the city is extremely good, owing to the construction of a tunnel, extending 4 m. into Lake Michigan, while the scwage of the city is carried by a canal into the city is carried by a canal into the Illinois R. This canal, which cost \$33,000,000, was opened in 1900, and connects the Chicago R. with the Des Plaines R., and finally with the Illinois. C. owes its great advance in commercial activity to its advantageous position. In addition to its being on the Great Lakes, it is in such a position as to be an extremely good railway centre and by the such a position as to be an extremely good railway centre, and by this means is connected with all parts of the United States. There are also steamship lines with regular services connecting it with other places on the lakes, while in addition it ranks among the largest commercial ports in the world—ships of over 7000 there is, in fact, no other

The Union Stock-Yards, which are situated in the S.W. part of the city, are also worthy of notice, as they constitute the largest live-stock market in the world, employing an enormous number of workers (about 25,000), and having accommodation for hundreds of thousands of animals. In these yards the animals are slaughtered, and large quantities of canned meat, glue, butterine, and other products are turned out from them. In addition to this all kinds of manufactures are carried on in C., including iron at cars, agricultural

ing, and furnitu. combarvesting machines are made, the Sucz Canal.

two largest firms being the Deering and the` McCormick Company Harvesting Machine Company. Pullman, situated in the S. of C., is a model town built by the Pullman Car Company, and here are the Pullman Car works, at which are produced the The government of C. is regulated by a general charter law of 1875, the power being vested in a council They have elected from the wards. The mayor, who is elected for two years, is at the Bermejo district, where they were

Hospital; another is the Presbyterian | head of the council, and has the power of appointing single commissioners to rule the different departments, all of which are under the power of the council. It lies also with the mayor to dismiss any commissioner unless two-thirds of the council object. The growth of population in C. is remarkable, its increase during the last twenty years being from 503,000 to nearly 3,000.000. There is also a large percentage of foreigners in the city, including Bohemians, Ger-mans, Swedes, Norwegians, Poles, mans, Swedes, Norwegians, Poles, Italians, and Russians. The name of the city, C., is derived from a word meaning 'wild onion,' and was in 1673 visited by Joliet and Marquette, and after the giving up of a piece of land to the government near the end of the next century, Fort Dearborn was built by them in 1804. In 1812 the Indians massacred the settlers, but it was rebuilt very settlers, but it was rebuilt very shortly afterwards, and by the year 1837 had received its charter as a city. In 1871 nearly the whole city among the largest commercial ports cto. In 1011 heart, and the loss was tons being able to enter the harbour tremendous. It was, however, soon there is in fact, no other.

-there is, in fact, no other try, with the exception of \(\) better construction, that does a larger trade. Sources of the city's wealth are grain, market Riot,' in which a bomb was live stock, lumber, and meat: as for thrown among the police force who these products it holds the premier were trying to put down an anarchist place. The grain, which reach total of about 3,000,000 bushels to the provided with the provided with the police force who there are trying to put down an anarchist wing to roughless in total of about 3,000,000 bushels to the provided with the

place. The grain, which reach total of about 3,000,000 bushels annum, consists chiefly of corn, ason, Early Chicago and bushels, and the chormous grain and Illinois, 1890; A. J. Andreas, elevators are a feature of the city. History of Chicago from the carliest The Union Stock-Yards, which are period to the present time, 1884; Joseph standard in the S.W. part of the city. Eighend The Story, of Chicago in the Chicago from the Chi Kirkland. The Storn of Chicago. 1892-94.

Chicago Heights, a tn. in co. Cook, Illinois, U.S.A., 25 m. S. of Chicago. It has manufactures of chemicals, stoves, boilers, furniture, and pianos. Pop. 14.525.

Chicago River, which runs W. from Lake Michigan, is of great commer-cial importance, and with regard to its harbour, is one of the greatest in the world. It is perhaps the most important of non-tidal rivers of its

having about 15 m. of navi-channel; the tonnage of its

commerce oxeceds that of the

Chicane (Fr. word derived from Chic, or from the Persian Chaugan), a planned intention to gain unfair advantage by petty and dishonour able tricks.

Chichas, a S. American people of the Gran Chaco, Argentina, and who are not at all similar to the other tribes who dwell in that region, and who are m

the Ilama wool, and the Incas are was interred here), and St. Paul's said to have employed them in

silver mines.
Chichele, Henry (1364-1443), an English archhishop, and founder of All Souls' College, Oxford. He was born at Higham Ferrers, Northampton, and was the youngest son of Thomas C. 11e was educated at Winchester, and went to New College, Oxford, in 1387. Three times he went as ambassador to France, and on his return the last time he was

made Archbishop of Canterbury. Chichen, or Chichenitza, a ruined city in Yucatan, Mexico, 100 m. S.E. of Merida. At one time it was apparently a place of religious importance, as there are many evidences of early elvilisation in the time of the Itzas, a most powerful Maya nation, who were still inhabiting the city at the time of the Spanish conquest. There ls a nunnery, a castle, and a central pyramid, the latter being 550 ft. sq., and still remaining a height of 70 ft.

Chichester, a cathedral tn. and municipal bor, cap. of W. Sussex, 28 m. W. of Brighton. A city rich in historical associations. It is situated on a plain between the S. Downs and the sea. The name is derived from the Saxon Cissancaster, Camp,' and ealled so after a Saxon king who took it in 491. Originally a Roman station and the capital of the whole of Sussex until its occupa-tion by the W. Saxons. The eathedral was creeted in C. in the early part of the 12th century and burnt down la Another cathedral was built on the same site in the 12th and 13th pure Chickasaws. It represents different centuries. periods of architecture, the cholr above the arcade and the eastern part U.S.A., on the Chicago, Rock Island, containing excellent Pacific Railroad. Its industries the Early English

special features of t In its nave with double alsles on each side, n detached campanilo or bellside, n detacled campanilo or belltower, and a number of portralts of
the English kings from the time of
the Conquest and of many bishops, the appearance of small vesicles
The spire is 300 ft, high. Sir Gilbert which may not he very numerous;
Scott and storation und drop off at about the
as the cer large in the control of the contro

ornate per-isliop's palace

and cloisters are not far from the thought cathedral. Other buildings of laterest but it is not are the church of St. Olave (Roman Chick-Pea,

known as 'mitimes,' or Peruvian worken on tiple if of oil the little every colonists. They dress in a cloth a time transfer of the character which they weave themselves from St. Ambewatte poor William Colonis Church (a fine modern structure) C. has a fine cattle market, and the ehicf trade is agricultural produce and live stock. Many Roman remains have been discovered here. (1911) 12,591.

Chi-Chou, one of the aine divisions of China in the Hia dynasty, corresponding with W. Chili, Shansi, and part of Honan N. of the Yellow R.

Chickahominy, a river of Virginia, U.S.A. 1t Is a trib. of the James R., which it joins 22 m. below City Point. In 1862 the battles of Fair Oaks, Mechanlesville, Galne's Mill, Savage's Station, White Oak Swamp, and in 1864 Cell Harpow, took place per 1864 Cold Harbour, took place near the river.

Chickamanga Creek, a river which takes its rise in Walker co., Georgia, U.S.A., and flows into the Tennesse, 6 m. above Chattanooga. The coafederates under Bragg defeated the Federals under Rosecrans in Sept. 1863 on the banks of the river.

Chickasaws, a tribe of N. American Indians, allied to the Cherokees. They formerly occupied the Northern Missisippi and parts of Alabama, but have since settled in the Indian territory,

agreed to liherate their slaves. late years they have advanced considerably la culture, and many have read for degrees at American universities. The 'nation' numbers 10,500, but there are only about 4000

Chickasha, or Chickasaw, a tn. of Chickasaw nation, Indian territory, ide lumber, cotton, and cotton-oil. Pop. (1910) 10,320. Chicken, see POULTRY.

Chicken-pox, a mild, feverish, and

Decorated 1 to Norman disease, the fever not being very styles are nil in evidence in this high nor lasting. The period of incathedral. The town itself has a fine fection ends when all the scabs have ia structure disappeared, and when the person ornate per-affected has had an aatiseptic bath. A theory of C

arictinum, a leguminous plant culti- and is in the same genus as the endive-vated in India and S. Europe for The whole plant is hitter and aromatic, annual are solitary and are of a pale without light, when they become violet colour. The seeds are about tender and delicate, and form a the size of an ordinary pea and bear pleasant winter salad. But the cultia striking resemblance to a ram's head, hence the specific name. When hoiled they form a nourishing article of diet, or when ground and made plant are dried, roasted, and ground, into pca-soup. In summer the plant exudes little viscid drops from the stem and leaves and on evaporation this produce became too dear for the these leave helind crystals of oxalic labouring classes of France and Geracid, to which its grateful refrigerating qualities are due. Cajanus indicus, a tropical leguminous plant, is some-times known as C., its other names being Congo, or pigeon, pea and dahl. Its seeds also form an article of food,

and are frequently used in curries. Chickweed, a title shared by several plants, but it is applied particularly to the carrophyllaccous plant, Stellaria media, an ally of the stitchwort, from which it is distinguished by the double row of hairs on each internode. The flower is well known to please the palate of cage-birds, and it is a peculiarity of S. media that it obligingly flowers the whole year round. Other familiar plants hearing the shore new new members ing the above name are members of different genera; thus, Cerastium different genera: thus, Cerastium includes the field mouse-ear C. (or C. (or C. viscosum), and the tropical genns Drymaria has a species known as C. (D. cordata). Holosteum umbellatum, yet another caryophyllacous plant, is called in America the

jagged C.

Chiclana de la Frontera, a tn. in Andalusia, Spain, on the Lirio, 12 m. S.E. of Cadiz. Near by is a ruined Moorish castle, and the mineral baths are much visited by the inhabitants of Cadiz. Wines are exported, and of Cadiz. White are exported, and linen and earthenware goods are manufactured. Pop. (1900) 10,868.
Chiclayo, a tn. of Truxillo dept., E.

Peru, S. America, 12 m. S.E. of Lam-hayeque and in that province. Has

sugar plantations. Pop. 11,325.
Chicopes: 1. Tn. of Hampden co.,
Massachusetts, U.S.A., on Connecticut R., 4 m. N. of Springfield. It has
large manufactures of cotton (in the Dwight mills), hronzes, artillery, swords, tools, and bicycles. Pop. 19,170. 2. River, in the S. of Massachusetts, which flows in a westerly direction to join the Connecticut R. on its i. b. 4 m. N. of Springfield.

Chieory, Succory, or Cichorium of Fuchow.

Chieory, Succory, or Cichorium of Fuchow.

Chien-ning-fu, or Kien-ning, a tn. of Fuchow.

Chien-ning-fu, or Kien-ning, a tn. of Fuchow.

Chien, a tn. of Turis proc.

vaced in initial and S. Europe for The whole plant is internal aromato, food. It is bushy in hahit, grows to and the leaves, as well as the root, a height of nearly 2 ft., has the pinnate leaves common to the order, form of a decoction, as a tonic bitter and the pods are short, oblong, and diuretic. The leaves are large two-seeded; the flowers of this and succellent, and are often grown vation of C. is carried on more for the sake of the roots than for the leaves, and these carrot-shaped parts of the this produce became too dear for the labouring classes of France and Germany, it was universally used as the best substitute.

Chicoutimi, tn. of Quehec, Canada, in county of same name on R. Sague-nay, 111 m. N.E. of Quebec. It is the

seat of a hishop. Pop. 3000.
Chicova, a vil. and fort of Monomotapa, Portuguese E. Africa, in a plain of the same name, on the Zambesi R., 220 m. N.W. of Scnna. The plain is fertile, and there were formerly silver mines.

Chidambaram, Chilambaram, or Chitambaram, a tn. of S. Arcot, Mad-ras, British India, 21 m. S.W. of Cuddajore. It is a religious centre for the whole of Southern India and Ceylon; the most important among the numerous temples being that of Siva. The town was of some strategical importance during the wars of the

Carnatic. Pop. 18,600.
Chief, in heraldry, one of the honourable 'ordinaries,' which occu-

honourahle 'ordinaries,' which occupies one-third of the upper part of
the ficld, defined by a horizontal line.
Chiem-See, lake of Upper Bavaria,
Germany, 40 m. S.E. of Munich. It
lies 1650 ft. ahove sea-level, is about
12 m. long and 7 wide, and has an
arca of 34 sq. m. The greatest depth
is rather over 500 ft. On the lake
arc the islands of Herrenwörth and
Frauenwörth. It is fed by the rivers
Achen and Prien, and discharges its

Achen and Prien, and discharges its surplus water by the Alz into the Inn. Chien-chang-fu, dist. of Süchwan, China, lying between the Tatu and Kinshakiang Rs. The name is also applied to the Alexandra Alexandra China, Indiana China China, Italian Rs. The Ramie Alexandra China applied to the valley forming the route between Yunnan

Süchwan.

Chieng-mai, or Zimme, tn. of Siam, in the Laos country, on the Me-plug R., 180 m. N.E. of Moulmein (Burma). It is a centre of the trade in teak, the surrounding forests of which are, however, becoming exhausted. Poppropri

mont, Italy, standing on a hill 9 m. situated on the R. Trasmin, 20 m. S.E. of Thrin. Formerly a fort. The most interesting building in the town is the church of Santa Maria della links and a neck of land which form Scala, built in 1406. There are manufactures of textiles. Pop. 12,336. Chieti: 1. Prov. of S. Italy, on the Adriatic. Area 1138 sq. m. The province is very mountainons, and was originally known as Abruzzo Citeriore. Pop. 371,000. 2. Capital city of province of same name check, a form of hairdressing adopted by women about 1780, and again the control of the constitution of the constitution of the control of the contro city of province of same name, Abruzzi e Molise, Italy, bniit on a hill near the Pescara, 40 m. E. of Aquila and 8 m. from the Adriatic. It is an archiepiscopal scat, and contains a fine Gothic cathedral, a lyceum, and a theatre. It is built on the site of the ancient Roman Teate, namerous remains of which still exist, including a large theatre and a gateway. Teate was the chief city of the Marrucini. In 1524 St. Gaetano founded here the order of the Theatines. Cloth and silk are manufactured there. Alt. 1070-80 ft. Mean temp. for year, 56-3° F.; summer, 74.8° F.; winter, 41.0° F. Pop. 24,384.

Chiffehaff, or Lesser Pettychaps. popular name of the Sylvia European species hippolais, Turdidæ of primitive song resembling words chiff-chaff. Another warbler of the same family, but genus Phylloscopus, is sometimes given the name, occasionally corrupted

as chipchop.

Chigi, the name of a distinguished Italian family. Among its most Among its most

famous members have been:

Agostino (1465-1520), the founder, a celebrated Roman banker, born at Siena; settled in Rome in 1485 and became enormously rich, his income being estimated at about £700,000 per annum. He was a £700,000 per annum. He was a patron of many famous artists, in-cluding Peruzzi, Perugino, Sebastiano del Piombo, and Raphaei.

Agostino Chigi, il Magnifia
Cugnoni (1881-3). See Magnifico,

Fabio, pope (1652-67), better known as Alexauder VII. He was prominent in the Jansenist controversy, declaring for papal infallibility. He was involved in a dispute with Louis XIV. of France, who sent an army to sack Avignon. He was responsible for the colonnade of the Square of St. Peter.

Flavio (1810-85), cardinal. Began life as an officer in the papal noble guard; in 1848 took orders and became bishop of Mira; in 1850 became papal nuncio at Munich; in 1856 was papal representative at the coronation of Alexander II. of Russia: In 1861 became papal nuncio at Paris, and in

by women about 1780, and again about 1870, consisting of an enormous coil of hair, folded round a pad, and worn in the nape of the neck or at the back of the head.

Chigoe, Chigger, Jigger, and Sandflea, are some of the names applied to the Sarcopsylla penetrans, a species of Aphaniptera which is native to S. America and the W. Indies, but has extended its travels to other lands through the agency of man. The female of this flea, which is smaller and has less powerful limbs than the common flea, buries the hinder part of its body under the skin of the human body, and when this portion of its anatomy swells it discharges numerous eggs into the host. The result of this process is frequently the strength with sorters and even fatal fraught with serious, and even fatal danger to mankind. S. gallinacea, a kindred species, attaches itself to the

eyelids of the poultry of Ceylon. Chigwell, a vil. of Epping div. of Essex, England, 13 m. N.E. of Lon-don, on the borders of Hainault Forest. It contains a grammar school at which Penn was a pupil, founded in 1629 by Archbishop Harsnet of York, and enlarged in 1871. The 'Maypole Inn' appears in Dickens's Barnaby Rudge. Pop. (1911) 2742.

Cbih-chou-fu, or Cbi-chou-fu, a tn. of China in the prov. of Ngan-hui, situated a few miles to the E. of a tributary of the Yang-tse-Kiang, and about 155 m. W. of Hang Chou.

Chih-feng, a small tn. of China in the prov. of Chih-li, about 140 m. to the N.W. of Chin-cbon-fu.

Chihuahua: 1. The largest state of Mexico, bounded on the N. by New Mexico, on the S. by Durango, on the E. by Coabuila and Texas, and on the by Sinaloa and Sonora. Area 89,998 sq. m. On the W. the country is traversed by the Sierra Madre or Mexican Cordillera, and in the E. lies the Mexican plateau, and the de-pression known as Bolson de Mapimi. The chief industry is stock-raising, but mining is carried on, the chief minerals found being silver, gold, and copper. The soil is fertile, the chief product being cotton. Pop. (1900) 327,784, consisting chiefly of mestizos (half-breeds) and Indians. 2. Capital of the above state, on the Mexican 1873 was created a cardinal.
Cbigirin, or Tebigirin, a tn. of Central Railway, situated at an ele-

Child

vation of 4650 ft. The city was founded in 1539, and bas become an important centre of trade and There silver - mining enterprise. are cotton and woollen mills, and some fine buildings, including a years.

Chilas, fortified tn. of N.W. Frontier Prov., British India, on R. Indus, 35 m. S.W. of Gilghit. The cap. of a small state lying between the nor-thern frontier of Kashmir and the Indus, it occupies an important military position with regard to tho Kashmir-Gilghit routc. and was occupied by the British in 1893.

Chilblain, Frostbite, or Kibe (Erythema pernio), local inflammation of the skin, which appears on the hands and feet, more rarely on the nose, ebceks, and cars. It chiefly affects ohildren (girls rather than boys) and old people, and occurs in cold weather. It is due to exposure to the cold and to bad circulation. It is attended with redness and swelling, the centro of which deepens to a purplish hue. In severe cases, small vesicles riso on the surface of the skin and ulceration follows. Cs. cause intense irritation, and, when chilled and suddenly heated again, are extremely painful. It is generally thought that they are due to do ficient nutrition or bad health, and therefore tonic and outdoor exercise are often recommended as a remedy. The part of the body affected should be kept very warmly and loosely clad, and certain tinetures, such as iodine, ehloride of iron, and camphor, may be painted on externally. Warm electric baths have also been urged as a cure. Broken Cs. should be kept scrupu-

/ Chi the C. adult. in an and t

in a generally similar manner. Differences can be noticed in details, and the infant shows marked differences which become less marked as child-hood progresses. The infant has, in proportion to the adult, a relatively head and abdomen, small large thorax and short legs, and long arms. one-eighth of the beight.

The skeleton of the child differs so much from that of an adult that an anatomist can, with a great amount of accuracy, determine the age of a skeleton, up to about twenty-four years. The difference, of courso, is parish church, Jesuit college, a mint, greatest, as in all cases, in infancy, and a prison. Hidalgo and Allende, Bones consist of organic matter allied were executed here, and a monument to their memory stands in the public square. Pop. (1900) 30,405.

Chikislar, port of Russian Turkestan, on the E. coast of the Caspian Sea, N. of the mouth of the Atrek, 200 m. S.E. of Krasnovodsk.

Chilas, fortified to of N.W. Broatt. fontanelle, or 'opening in the head.'
With the growth of the skull this
disappears at about the cighteenth month, because the bones growing irregularly at their cdges, meet and fit into one another, forming what is called a suture, since the bones look then as if they had been stitched together. Again, at birth many of the bones of the body are not formed. They consist then of long rods of cartilage, a tough substance which carriage, a tong substance which can be cut with a knife. Lime salts are deposited on these in definite places forming bone, until they consist of a bony shaft connected to the bony extremities by plates of cartiage. All through childhood the bone remains in this condition, but as maturity is reached the cartilage ceases to grow as rapidly as the bone, and finally disappears, the ox-tremities joining with the shaft, and rowth of the bone in length stops. The bone grows in thickness also, by means of a surrounding tough membrane, called a periosteum. New bone is formed in the deeper portions of this, and at the same time the centre of the bone is absorbed, leaving the hollow wherein rests the bone marrow. Theso differences give rise to peculiarities, e.g. a C.'s bone may partially break; whereas in the adult a break snaps the bone, in a child the bone may merely bend. Again, the extremity may be separated from the shaft by the breaking of the eartilously clean and dressed with pure lage. This can only happen to chil-olntment on lint.

mces, sinec it affects the growth of bone. The teeth of the C. at th are hidden in the dental saes, ieb are in the depressions in the

Alimentary system.—The obvious point of difference between the infant and the adult with regard to the digestive organs is the absence of teeth. At birth the milk teeth are present in the guns, and teething usually commences at about the sixth month. The two lower central incisors At birth, the head is one quarter of are the first to appear, and these are the height, while in the adult it is only followed between the eighth and followed between the eighth and tentb month by the four upper in-

cisors. The two remaining lower incisors and the four first molars follow between the twelfth and fourteenth After a while the four eyemonth. tecth appear at about the eighteenth month, and after a fairly long in-terval the set of twenty milk teeth is completed by the appearance of the four second molars at the age of about two and a half years. This general order is not, of course, uni-versally true, but in general it may he stated as such. In the same way the second dentition, giving rise to the permanent teeth, hegins at about the sixth year, and continues at the rate of four teeth a year until the twelfth year, giving rise to twenty-eight teeth. The full set of thirty-two is completed some time between the seventeenth and twenty-fifth year by the appearance of the wisdom teeth. Another point which may he noticed is, that the stomach lies obliquely in infancy, so causing vomiting to be easier and accompanied by less strain than it is in adults. The capacity of the stomach,

6 ozs., at nine months 7 ozs., and at twelve months 8 ozs. Again, a C. at birth is unable to digest starch. This is due to the absence of saliva, and this, and the consequent power to convert starch into sugar, only comes with the arrival of the teeth. During the first ten to twelve months the child should be fed entirely on its mother's milk. The superiority of human milk over all other foods for infants, from the point of view nntritive value verdict of all upon experience. Indigestion and

eolic are perhaps the minor disorders induced by hottle-feeding, but the results, especially in cases where hottle-feeding is injudiciously used, may be taken as a distribution of the contraction of the may he taken as adding greatly to the infant mortality rates of our large towns. In those cases where artificial feeding must be resorted to, the best substitute for human milk is some modification of cow's milk, in which the constituents are brought to a nearer proportion to those of human and therefore the amount of milk milk. Milk is an emulsion, owing its which is required for each feeding, white colour to globules of fat. The may be taken in general as being as following table shows the varying follows: at birth from 1 to 1½ ozs., composition of human milk compared at three months 4 ozs., at six months with cow's milk:—

•			1	Human Milk	Cow's Milk	Cream
Fat Sugar Proteids Salts Water	:	:	•	4 7 1.5 0.2 87.3	3-4 4·3 4 0·7 87	8-20 4 3-4 0-6 84-72
				100.0	100.0	100.0

Cow's milk differs in this respect, too, year a large amount of milk should that the proteid contained is not be included in the dietary, which nearly so digestible as that in human milk, a dense curd being formed in the C.'s stomach, while when fed on human milk a flocculent, casily digestible curd is formed. To make cow's milk of the desired quality it must be diluted to reduce the proportion of proteid, and ercam and sugar of milk added. At about the seventh month some additions of starch foods should he made once or twice a day. They should not result in a diminution of the quantity of milk taken hecause tween the

v's

should consist of four meals a day. School children require ahundant feeding, and sweetmeats are an execlent addition, as they provide both sugar and fat.

Respiration and circulation.—The lungs of a child hegin to expand with its first cry. The process of inflation then g

lungs until

excreise are an essential for the possession of healthy lungs, and at the same time, by producing active move-ments of the chest and diaphragm, the ehicf milk the action of the heart is aided. specially prepared with the addition Clothes should be loose in childhood, of other foods, such as porridge, and free exercise of the voice should puddings, eggs, etc. Up to the sixth not only he allowed but encouraged.

Nervous sustem. — As has stated before, the head is relatively very hig and the face small in au infant, and this large size is due to the brain case. Its brain is enormous in proportion to the size of the body. It is not fully developed, convolutions following as the result of sense impressions. The brain grows rapidly in size until the seventh year; the greatest growth occurring during the first year. After this period growth in weight slowly goes on until the adult stage is reached. It is to allow for this growth that the fontanclle or opening in the head occurs. The skull around the hrain case consists of eight hones, partially developed at birth but all joined up in the adult. The fontanelle on the top of the head is the last to close, and if it has not closed by the twenticth month, then either the brain is continuing growth, or rickets has intervened. Before hirth the impressions reaching the hrain are few in number, hut as soon as the C. enters the world, it is immersed in a flood of impressions. These cause the brain to develop. The different areas of the brain are all husy storing up impressions both sensory and motor, and association fibres are laid down which bring the different areas into relation with each other. It is easy to understand, then, that the nervous system is unstable and excitable, and that the power of control is very feeble. So headaches, convulsions, screaming fits, etc., can arise from trivial causes, and it is therefore necessary to protect a C. from unnatural excitement, and that the diet should not only be simple, but should exclude all stimulants, such as al-cohol, coffee, and tea. Sleep, rest, and quiet should he provided, and all periods, as follows :-

heen possible forms of excitement, as far as possible, prevented. In later childhood, both naturally nervous and rapidly growing children require very careful treatment.

The growth of the child .- At birth tho C. should weigh about 7 lbs., although 8 to 9 lbs. is not uncommon. Then a steady increase in weight and height during childhood. This growth is not uniform. During the first few days a loss in weight occurs which is made up hy ahout the middle of the second week. During the first five months the daily increase should be from ; to 1 oz., and from t to t oz. for the rest of the first year. At six months the weight should be donbled, and trehled at twelve months. At hirth the infant is about 20 in. in length, and at the end of the first year it should be 8 in. taller, although it takes six years to double the height at birth. The increase in height is not as useful as an index of health as the as useful as an index of neatth as the increase in weight. From the appended table it may be noticed that with hoth hoys and girls the most rapid growth occurs during the first year. At about the sixth and eleventh years occur further periods of rapid growth. Boys are heavier and taller than girls nt birth, and always, excepting the thirteenth to fifteenth years when the girls me heavier having when the girls are heavier, having grown more rapidly in weight from the eleventh to the thirteenth year. Between the twelfth and fourteenth year the girls nre taller, but at all other times the boys are superior in height and weight. It may further he noticed that the increase in weight takes place between the intervals of greatest increase in height. Here it may also he pointed out that generally childhood can be divided into four

	Boys	GIRIS
First childhood . Later childhood . Adolescence Puherty	Up to 7 years From 7 to 12 years " 12", 15", " 15", 16",	Up to 6 to 7 years From 7 to 10 years ,, 10 ,, 13 ,, ,, 13 ,, 14 ,,

the fifteenth year.

The table on p. 577 (from The bably the first sense developed. Since Child: His Nature and Nurture, by smell is so closely linked up with taste W. B. Drummond) shows the increase it may be, and appears to be, present in height and weight from birth to soon after birth. The sense of touch, however, is present almost from birth. Menial development.—At birth a lit is present in a vague form hefore, child is unable to interpret impressions arriving at the brain through cularly developed in the lips and the the senses. The only way to judge as tongue, and afterwards, of course, detailed the senses of high is valore, will the land becomes the the senses. The only may to laugh as longue, and alternates, of comes the to the activity of the senses at birth is velops until the haud becomes the by the effects of stimulation as shown organ of toneh. Until this stage is through movement. Taste is pro- reached an infant has a great tendency

to take everything to its; etc. For a while after birth a C. 's movedency to take everything to its etc. For a while after birth a C. smove-mouth. Again, an infant is sensitive ments may be classified as either to changes of temperature. Sight is random, reflexive, or instinctive, present at hirth, but the C. seves may Random movements are common in move independently, as may the cyclinants, and they seem to depend lids. Further, they are usually only neither upon will nor on any sensory half open for the first few days, and stimulus. Among these night be a bright light may cause discomfort, noticed, the stretching of the limbs as to whether the child really sees or of a wong baby. Older children also a bright light may cause discomfort. noticed, the stretching of the limbs As to whether the child really sees or of a young haby. Older children also not, can only be told when he follows a slowly moving object with his eyes. Siecp. Reflex movements arise in When this happens, then the C. begins response to sensory stimuli and are to watch objects and persons, and present at birth. Swallowing, sneezsoon begins to show pleasure in constant in the sensory stimuli and are of the engage of the sensor of the engage of the sensor of the engage of the sensor of colour. of the sensation of colour. A sense of class of movements. Instinctive movedistance and conception of solidity ments also arise from sensory stimuli, depends upon a co-ordination of the | but are more complex. They may not senses of touch and sight. The sense all be instructive, though some arc.

	70-		1 0		
AGE		YS	GIRLS		
1013	Height	Weight	Height	Weight	
Birth 6 months 12 ". 18 ". 2 years 3 ". 4 ". 5 ". 7 ". 8 ". 10 ". 11 ". 12 ". 13 ". 14 ".	20·6 inches 25·4 "29·0 "30·0 "32·5 "35·0 "38·0 "44·1 "46·2 "46·2 "46·2 "55·8 "55·8 "55·8 "56·1 "66·1	7·55 ibs. 16·0 , 20·5 , 22·5 , 22·5 , 31·2 , 35·0 , 41·2 , 45·1 , 49·5 , 60·0 , 60·0 , 72·4 , 79·8 , 99·3 , 110·8 ,	20°5 inches 25°0 " 28°7 " 32°5 " 32°5 " 38°0 " 41°4 " 45°9 " 48°6 " 51°8 " 51°8 " 51°8 " 51°8 " 51°8 "	7·16 ibs. 15·5	

of distance is very vague until the C. Seizi is a few years old, and while the recognition of solid forms is developed of m rapidly for near objects, this also remains vague for distant objects. Hearing, again, is absent at the time of birth, hecause there is no air in the drums of the ears. Loud sounds do not disturb, usually, until the third day or so, and, of course, this enables the C. to sleep without being disturbed. The power of localising sound may be developed by the fourteenth day, but not to any very great extent.

The will.—I From this and other observations it may be seen that the training of the eye should be aided by the training of the hand, and similarly it appears the hand, and similarly it appears partment of colid-psychology is but that speech depends on hearing. The lower senses, i.e. taste, smell, and touch, of course, enable the C. to (2. senergy is generally regarded now develop sensations of hunger, thirst, as being a preparatory exercise for warmth, the wholesomeness of food, life as it will be. Since the human is

birth, and with great force, but an infant does not desire nor seize anything at sight, but only on coming into contact with it, until the sixteenth to the eighteenth week. Similarly with the raising of the head. This is impulsively done during the first fcw weeks, but the will to raise the bead to see things shows itself about the

The will.—From these movements, which are independent of will, the C. gradually assumes control over them, and wills to do them. But this de-partment of ebild-psychology is but

time given up to play should be a long (1690). one, and is. It must, therefore, be seriously regarded when the subject (1802-80), American writer, born at of the child and his development is Medford, Mass., U.S.A.; hecame a under consideration. All this leads school teacher. In 1828 she married heing made of child life metbods of education is made. One need only kindergarten schools, and cookery centres, and the various school clinics to see that there is a spreading tendency to view the child substitute from the adult in many ways. See A. F. Chamberlain, The Child: A Study in the Evolution of Ines, 1851; The Power of Kinderman, Which contains a splendld list of references; Elizabeth Harrison, A Study of Child Nature; W. Preyer, A Study of Child Nature; W. Preyer, The Mind of the Child; W. B. Drummond, The Child: Ilis Nature; 511-58; son of Clovis; inherited the and Nurture; J. Sully, Studies of Child-kingdom of Paris; defeated Amalrich made. One need only school clinics to see that there is a spreading tendency to view the child as distinct from the adult in many ways. See A. F. Chamberlain, The Child: A Study in the Evolution of Man, which contains a splendid list of references: Elizabeth Harrison, A Study of Child Nature; W. Preyer, The Mind of the Child: W. B. Drummond, The Child: 11is Nature and Nurture; J. Sully, Studies of Child-lood: Bernard Perez. The First Three hood: Bernard Perez. The First Three

Psychology of Childhood. Child, Francis James (1825-96), an American educationalist and writer, born at Boston; educated at Harvard and in Europe. In 1851 he hecame Boylston Professor of Rhetoric at Harvard, and in 1876 Professor of Anglo-Saxon and Early English

Anglo-Saxon and Early English literature. His works include an edition of Four Old Plays, 1848, and of Spenser, 1855; a treatise, Observations on the Language of Chaucer's 'Canterbury Tales,' 1863; and a collection of The English and Scottish

Ballods, 1882-98, Child, Sir John (d. 1690), governor of Bombay, brother of Sir Josiah C. of bombay, brother of Sir Josian C. (q.v.). Went to India as a child; in 1680 became agent of the East India Company at Surat, becoming president when Surat was made a presidency in 1681. In 1684 ho was appointed captain-general and admiral of the company's forces, and in 1686 received supreme command over the company's possessions in India, the scat o' been previously

He became in

with the Emperor of Delhi. Child, Sir Josiah (1630-1699), son of London merchant of long-established reputation. At twenty-five became victualler in the navy under the Commonwealth. Sucreeded in making a fortune and became a stock-Succeeded In holder in the East India Company, of which body be ultimately was ercated governor. Created a baronet In 1678. Ho advocated free trade doctrines, and held the Dutch up as an example of commercial success. Wrote many articles on economic

highest in the scale of animals, the entitled A New Discourse of Trade

to the fact that modern systems of David Lee C., a journalist, and hoth education need revision, and in the she and her husband came under light of the special study which is Garrison's influence and joined the

'ivery crusade. She was cowith her husband of the Anti-· Standard for some years after

kingdom of Paris; defeated Amairich II., king of the Visigoths, at Narbonne hood; Bernard Perez, The First Three II., king of the Visigotlis, at Narbonne Years of Childhood; W. Tracy, The in 531, and Sigismund, king of Bur-

gundy, in 532.
Childebert II. (b. 570), king of Austrasia, 575-96; the son of Sighert and Brunhild. In 593 he inberited Orleans and Burgundy from his uncie Goutran.

Childebert III. (b. 683), nominal king of France, 695-711; succeeded his brother, Clovis III., but had no real power, the kingdom being in the hands of Pepin le Gros, mayor of the palacc.

Childerie I., king of the Merovingian Franks, 463-81; succeeded his father, Mérovée, and left the throne to his

childeric II., king of Austrasia from 660, and of Neustria and Burgundy from 669; succeeded his father, Clovis II., and left the throne to his brother, Thierri.

Childeric III., the last of the Merovingian kings of France, 743-51; deposed by Pepin lo Bref, and dled

at St. Omer in 754.

Childermas, the festival of Holy cents, held on Dec. 28, to comporate the slaughter of the chilby Herod.

Childers, Hugb Culling (1827-96), British statesman, born in London. After ho left Cambridge University lie went to Australia, settled in Victoria, and became an Inspector of schools. He was successively secretary to the Educational Board, Commissioner of Education, and Auditor-General, holding as such a scat in the Legislative Council. In 1855 ho was a member of the first Victorian cabinet as Commissioner of Customs and Trades. He helped considerably in the foundation of Melquestions, the most important work bourne University. In 1857 ho re-

turned to England as Agent-General described it as a bill to consolidate for the colony. In 1860 he was returned as Liberal member for Ponte-In 1864 he was made a Civil fract. Lord of the Admiralty, Financial Secretary to the Treasury, 1865, and First Lord of the Admiralty in 1868, and a member of Gladstone's first cabinet. As First Lord he introduced a systom by which close intercommunication between chicfs of departments was checked and actual incetings of the The unboard were discontinued. fortunate case of the loss of the Captain, a new type of turret-ship, which capsized on its first voyage in the Bay of Biscay, 1870, and in which Mr. C.'s son was drowned, called attention to the new plan, and it was abandoned by Mr. Goschen, who succeeded him on his retirement in 1871. He ro-turned to the ministry shortly afterwards as Chancellor of the Duchy of Lancaster. In 1880 he was in Glad-stone's second administration as Secretary for War, and as such was responsible for the military opera-tions in the first Beer War in 1880, and the Egyptian expedition of 1882. At the end of 1882 he succeeded Gladstone as Chanceller of the Exchequer; his proposals for a conversion of consols were not carried out, and the defeat of his budget of 1885 led to the downfall of the ministry, though the real cause was the national dissatisfaction with the delays and mismanagement which had ended in the death of General Gordon. At the fol-lowing general election he lost his seat, but was returned as n Homo Ruler for S. Edinburgh in 1886, and joined Gladstone's tlurd ministry as Home Secretary. He objected to certain of the financial clauses of the first Home Rule blll, which were with-drawn. He retired from parliament See Life and Correspondence, in 1892. by his son, 1906. Childers, Robert Cæsar (1838-76), an

Oriental scholar; educated at Wadham College, Oxford; in 1860 entered the Ceylon Civil Service, acting as secretary to the governor, Sir Charles M'Carthy; returned to England in 1864, and in 1872 became sub-librarian at the India Office, London. In 1873 he became professer of Buddhist and Pali literature in University College, London. His numerous valuable works on Oriental subjects includo the Pali text, with translation, of Khuddaka Patha, and his great Pali Dictionary (2 vols.), 1872-75.

Child-killing, see INFANTICIDE. Children Act, 1908. This Act, which is popularly known as the Children's Charter, was introduced into the House of Commons in Feb. 1908 by Mr. Herbert Samuel, then Under-Secretary for the Home Office, who and a 'young person' over four teen and

and amend the law relating to the protection of children and young persons, reformatory and industrial schools, and juvenile offenders, and otherwise to amend the law with respect to children and young persons. The C. A. is in fact a codifying measure designed partly to remove the confusion and doubt consequent on the existence of a number of more or less unrelated statutes and partly to strengthen the law in a number of different directions. That the Act was wanted was clearly indicated by the Under-Sceretary's statements in the first reading to the effect that the Infant Life Protection Act, 1897, passed to stop the evils of baby-farming, was in many respects ineffective; that in regard to overlaying of infants no fower than 1600 infants every year met their death in that manner, and nn equal number from scalding and burning-evils due apparently rather to negligence than wilful cruelty. There are also a number of very necessary provisions in the C. A. designed to obviate the evils arising from the contaminating influences of adult offendors over children and young persons. The first part of the Act is directed to the pretection of infant life, and secures more satisfactory treatment for children placed out to nurse or adopted by fester parents, and it re-enacts the provisions of the Infant Life Protection Act, 1897, but raises the age from five to seven years. Persons undertaking the nursing and maintenance of one or more infants for reward must give notice to the poor law guardians within forty-eight hours of the reception of the infant. If an Infant dles or is removed from the foster parent, the latter must notify the guardians and the district coroner to that effect. For the more effective carrying out of these provisions the Act enables the guardians to appoint infant protection visitors, who shall have power to apply for an order of removal of an infant kept in insanitary premises or by persons who by reason of drunkenness, immorality, or other similar eauso are unfit to have charge of an infant. Offences under this part of the Act are punishable with imprisonment for a term not exceeding six months or to a fine not exceeding £25. second part of the Act deals with the preventing of cruolty to ehildren and young persons, re-enacting the pre-existing law as to the punishment of cruelty tĥe tion of law in children in begging. A 'child 'means a person under fourteen years of age,

fant was in hed with some other persteps to procure the same to he provided under the poor law; and encouraging the seduction or prostitution of a girl under the age of sixteen. Conviction on indictment entails either a fine not exceeding £100 and, in addition or in the alternative, imprisonment for any term not exceeding two years with or without hard labour. Part III., which deals with invenile smoking, makes it an offence to sell to a person apparently under the age of sixteen any cigarettes or cigarette papers, whether for his own use or not. It is also an offence for a tobacconist to sell tobacco other than it is for the use of the young person. Fines are imposed varying from £5 to £10 according to the number of convictions. Constables and park keepers are authorised by the Act to search! boys under sixteen seen smoking in any public place for cigarettes or cigarette papers. The case of auto-matic machines is also dealt with by for the sale of eigarettes believed to be extensively used by children or young persons. Part IV. of the Act consolidates and amends the various Acts relating to reformatory and industrial sebools. The categories of children who may he committed to industrial schools are extended so as to include such neglected and destitute children as cannot he more appropriately dealt with under the poor law, and all such classes whose probable that they will fall into offenders; and further to secure the eriminal habits and modes of life passing of laws for the purpose of The hurden of providing for casure of protion and maintenance in a school of any child ordered .

under sixteen years of age. Besides reformatory school, the obligation is the more obvious forms of cruelty like beating and abandonment, eruelty in a compendious manner with the under the Act comprises: Exposure of treatment of juvenile offenders. No children under seven to the risk of child can be sentenced to imprisonment through not taking reasonment, and a 'young person' only able precautions against danger from when he is of so unruly a character ome precautions against danger from open fire grates; the allowing of children and young persons to be in place of detention or of so deprayed brothels; the death of an infant under three years of age through overlaying for detention. In all other cases inversity of the contraction caused whilst the insome place of detention other than a son under the influence of drink; the prison for a period not exceeding one failure on the part of a parent or month, unless the court decides that other person legally unable to main- it can safely discharge the offender on tain a cluid or young person either his own recognisance, or under the (i.) toprovide adequate food, clothing, supervision of a prohation officer, or medical aid, or lodging, or (ii.) to take by sending him to an industrial or reformatory school, or that it can dispose of the case by a fine or sentence of whipping. Provision is also made for detention in places other than a police cell of juvenile offenders until they can be brought before the court. The Act also provides for the establishment of juvenile courts, such courts to be either in different huildings or rooms from that in which ordinary sittings of the court are held or in the same building, but at different times so as to prevent any association with adult offenders. As to the reformation of youthful offenders who have been sentenced to cigarcties to such a person if the detention in a reformatory school and tobacconist has reason to helieve that who are convicted of committing a who are convicted of committing a hreach of the rules of the school, see BORSTAL SYSTEM. Part VI. of the Act contains miscellaneous provisions, the principal relating to the powers of the education authority to secure the cleansing of verminous children, schooling of vagrant children, pre-vention of the sale of intoxicants to matic machines is also dealt with by children under five, and the duty of a provision empowering a magistrate those who provide entertainment to to order the removal of any machine make certain arrangements for the Safety of children.
Children, Employment of, see HALF-TIMERS and STREET TRADERS.

Children, Societies for Prevention of Cruelty to. The principal of these societies, which was incorporated under Royal Charter in 1895, is asso-ciated with the name of Benjamin Waugh, hy whose exertions the London S.P.C.C. was established in 1884. Its object was to discover cases of ill-treated and neglected children. environment is such as to make it and to institute proceedings against leasure of pro-

in the passing to an industrial school, including of the Criminal Law Amendment Act, children mentally or physically defective, is cast upon the local education to Children Act, 1889. These Acts authority. In the case of youthful and the Children Act, 1898 (q.r.), are offenders ordered to he sent to a lacer indication of the public recognition.

nition of existing evils, and their pres- in the same manner are medically inence on the statute book to a large extent destroys the raison d'être of these societies on their protagonist side. Nevertheless there is unfortuside. Nevertheless there is unfortu-nately still considerable scope for their activities in supplementing the work of local governing bodies and the police, especially in the direction of removing children from the in-fluence of drunken parents. In this latter respect the London S.P.C.C. state that practically all the cases of cruelty investigated by them have their origin in drink.

Childrenite, a rare mineral consisting of aluminium iron phosphate. It occurs in orthorhombic crystals, with hardness 4.5 and specific gravity 3.2. It has been found in a few places in Cornwall and Devon. An allied

Childs, George William (1829-94), American publisher and philanthropist, born in Baltimore. In 1842 entered U.S.A. navy; became a book-store clerk in Philadelphia, 1843; set up as an independent publisher, 1847; became a partner in the firm of Childs and Peterson, 1849. In 1864 he took over the Philadelphia Public Ledger. He wrote Recollections of General Grant, 1885, and Personal Recollections, 1890. His charitable work was very large, and he is perhaps best known by his erection of public memorials to great men, including Herhert, Cowper, Leigh Hunt, Moore, Shakespeare, Milton, Ken, and An-drews in England, and Edgar Allan Pog and Richard Proctor in America.

Child Study includes now anatomy, physiology, anthropometry, and psychology of the child as a child. Rousseau was the first to recognise the fact, that a knowledge of children and their ways is essential to anyone who wishes to reach them. Darwin was one of the first in England to publish observations of the development of a child, and since then the study has been carried out with great zest both here, on the Continent, and in America. Two Two methods are adopted in C. S.: (1) The individual method, which consists in as full a study as possible of a single child; and (2) the collective method, wherehy several children are ex-amined and studied for particular things, and an average or standard drawn up. Many of the results gained have heen summarised under CHILD. Some further results, however, which government survey of an exhaustive was hegun in 1848, and carried

spected, and the results tabulated and The importance conclusions drawn. of all this cannot be over-emphasised. As a direct result of C. S., kindergartens, and infant schools run on kindergarten lines, are now the only type of school for very young children. Play has been pressed into the scryice of the teacher, and freer and lesscramped movements are used from the heginning. 'Cramming' is heing recognised as being terribly harmful, and the deaf, the blind, and the mentally deficient are being trained in a marvellons manner. A third, though not very possible method of C. S., is that which is given when spontaneous writings of children can he got. Since, however, the child is usually writing under the knowledge that his work species containing manganese is is to be seen, it is very rarely of use known as cosphorite, and occurs in Perhaps the best of all indirect Connecticut. obtained from the annals of one's own memory, the only difficulty, and one which is almost insurmountable, being that of ridding that memory of subsequent interpretations in the light of present knowledge. Several societics are in existence for the study of the child, chief among which are: British Child Study Association, who publish three times a year a magazine called the Paidologist; the National Fræbel Union; and the Parents' National Education Union. For list of books on this subject, see CHILD, EDUCATION, and the following: J. M. Baldwin, Mental Development in the Baldwin, Mental Development in the Child and the Race; Edith E. Read Mumford, The Dawn of Character; W. B. Drummond, An Introduction to Child Study; E. A. Kirkpatrick, Fundamentals of Child Study; W. Preyer, Mental Development in the Child.

Chile, or Chili, a republic extending along the W. coast of S. America, to the S. of Bolivia, between the Pacific and the Andes; it includes also the greater part of the Fuegian Archi-pelago. Its existence as a republic may he said to date from 1810, when it declared its independence of the mother country, Spain, though the colonial authority was not finally broken till the battle of Chacahueo in 1817. In 1880 C. annexed Atacama and Tarapaca, including the Lohos Tacua. In the case of any territorial disputes hetween C. and Bolivia, the arbitration of Germany is to be accepted. The physical features of

many years. Since the eastern ary of C. is, broadly speaking,

lessous in the way of producing bodily the main chain of the Andes, the and mental fatigue. School children western section though absolutely

lat. is the highest, the average height lat. is the highest, the average negacibeing about 16,000 ft. The two highest peaks of the Andes are Aconcagua (23,393 ft.) in 32° 39° S., and Cerrode Mercedaria (22,300 ft.) in 32° S; other noteworthy mountains are other noteworthy mountains are Polleras (20,266 ft.), Tolorsa (20,140 ft.), Juncal (19,360 ft.), and Chimhote (18,645 ft.). The height of the Andes gradually diminishes from about 34°20'S. There are a number of passes over the Andes connecting C. with the Argentine Republic, of which the hest known are Bermejo (13,025 ft.), and Igiesia (13,412 ft.), on the Uspallata Road; Pircas at a height of 16,952 ft.; and Valle Hermoso, 11,736 ft. There is a great difference in the hreadth of the bigher and lower sections of C. at different places. The land above 5000 ft. extends in some places to within ten miles of the coast; which in others, notably along the chief rivers, the land under 5000 ft. extends for a distance of over 70 m. inland. In the N. the Chilian portion of the desert of Atacama lies between the coast and the mountains, but to the S. of the desert there are few spaces under 1500 ft. To the S. of 35°, however, a region which rarely reaches this height extends from the coast for an average distance of 60 m.
The general formation of this region
is as follows: the highest part is
nearest to the sea, and rising abruptly from the coast, sinks eastward in terraces to an interior valley, or plain. This interior plain slopes gradually from N. to S. The Andes of C. are highly volcanie in character, and earthquakes frequently occur, the average number of shocks, of varying seriousness, felt at Coquimbo being about forty every year. Perhaps the most destructive earthquake recorded in C. was that of 1751, when Concepcion was again descroyed, together with Talcahuano; in 1868 Arequipa and Iquique were ruined, whilst in 1875 Iquique was again levelled with the ground. The rivers of C. all flow from E. to W. across the country; even those flowing across the leavitudinal interior valler.

considerably elevated in some places, into heing. In consequence of their is everywhere low compared to the direction, the rivers are not of great eastern portion. The portion of the length, and therefore of no great Andes hetween 31° 40' and 34° 20' S. importance as means of transport. The most important are the quick-flowing Maypn; the Maule, which is navigable for a longer distance than any other; the Biobio, the largest of all, but not navigable for large vessels in its lower course; the Callecalle, which is the most important for which is the most important for navigation, as it has a good harhour at its mouth; and the deep Maullin, which drains Lake Llanquihne. Owing to the large rainfall of the S., many large lakes are there found, notably those of Llanquibue, Chapo, Ranco, and Lago de Todos los Santos, otherwise known as Lake Esmeralda. On account of the conformation of C., extending from 18° to 56° S. lat., the climatic conditions vary considerably though extremes of heat are seldom observed, owing to the influence of the cold Humboldt current. The place in which the greatest extremes are observed is the desert of Atacama: there the temperature varies frequently from 100° in the daytime to 36° at night. On the coast the at fight. On the coast the temperature rarely reaches a greater height than 90°. The mean annual temperature of Valparaiso is about 59°, that of Santiago 55°, and that of Valdivia 53°. In the longitudinal valley there is a mild uniform elimate, the Humboldt current and cool winds from the Andes serving to mitigate the heat in summer, whilst in winter the overcast skies and the winds the serve to The warmer latitudes prevent excessive refrigeration. rainfall is very low on the northern coast, hat in the fjord region of the S, it is much larger. At Valparaiso the mean annual rainfall is about 15 in., whilst at Ancud, in Chiloe, it is 130 in. The Chilian part of the desert of Atacama is as destitute of vegetation as the maritime region of Bolivia, and down to latitude 30°S, the coast corded in C. was that of 1751, when and down to latitude 30 S. the coast the former town of Concepcion was has no vegetation, though hinad some sunk in the sea, and the majority of places lying between 34° and 40° S. vegetation of C., which is in full were destroyed; on Nov. 19, 1822, vigour abont the latitude of Valthe coast near Valparaiso was permanently raised 4 ft. over 100,000 eq. m., and Valparaiso, Tuillota, long to it. A very striking feature of Casahlanca, and Limachi, were detected on Feb. 20, 1835, the rebuilt concepcion was again destroyed, high latitude of the region is controved with Talcahuano: in 1868 isdered. Among the more notable of high latitude of the region is considered. Among the more notable of the Chilian trees are the Quillaia Saponaria, or soap-tree, the bark of which is lined internally with a whitish saponaceous substance; the country; even those flowing across the longitudinal interior valley the cocoanut, and yielding a sweet mentioned above do so, which is a sap known as palm-honey; the Fagus proof that the valley received its obliqua, an excellent timber-tree; the present slope after the rivers came Filtroya palagonica, another very

good and very numerous timber tree; and the Eucryphia condifolia, foliage tree which grows to a great height and blossoms most luxuriantly The applo-tree has in Fehruary. heen introduced with great success, and hamboos extend for a long way S., being used es fodder for eattle. Numerous twining and climbing plants are found, giving something of a tropical aspect to Chilian vegetation; such are the Mulisia, an asteraceous plant with blue flowers, the becutiful red Tropæolum speciosum, and the gorgeous Philesia luxifolia, which has flowers shaped like a hell and of the colour of fire. The region between Valparaiso and Valdivia, which has sometimes been termed the 'Garden of the New World,' is the principal centre of agriculture, though in other '''''' agriculture, though in other great strides have been made . seience in recent years. principal crop, but meize, oats, hemp, heans, lentils, peas, and The potatoes are also grown. vine

and the olive are also grown; the pastures N. of the R. Maule feed immense herds of cattle; the hogs of the island of Chiloé havo given it a reputetion for hams; and in addition quantities of horses, sheep, and goats are reared. Chilian fauna is not remarkable for variety; pumas are the ehief wild animal, and are very de-structive of cattle. The chief of the other animals are the pudu, a small variety of deer, the coypu, or native heaver, the chiachille, guanacos, and viennas in the mountain districts, and a variety of fish-otter. Many varieties of birds are found, among which may be mentioned ibises, parrots, flamin species of sms

in C. is copper, of which there is a sperity than any of the others, not-great ahundance, the Tamaya: e fact that it was great ahundance, the Tamaya : in the province of Coquimbo regarded as inexhaustible. also found in fairly largo quant

importance is a lignite eoal, of which the principal bed lies to the S. of the Biobio to about 37° S. iat.; many other minerals are found in smaller quan"" sulphur. sulphur, zine, tln, and í Spanish salt. language and physique, though there is a not inconsiderable admixture of native Indian blood. At the time of the Spanish conquest in the 16tb ecntury, a native race calling themselves Moluche (warriors) occupied the greater part of the present re-public of C. The Spaniards called this

race Araueanians, and when they conquered the Incas they left the former in possession of a state of their own, to which was given the name of Araucania. A portion of this area, along the slopes of the Andes from Copiapo to Chiloé, is still inhabited by them. Other tribes worthy of mention are the Changos in the N. an Aimara tribe; the Aiacaluf in the channels lying to the N. of the Strait of Magellan; the Onas and Yagans in Tierra del Fuego; and the Tehuelches, inhabiting part of the mainland of Patagonia. There is a considerable foreign element in C., chiefly Germans in the extreme S., natives of the Argentine Republic in the N., and French, English, and N. Americans in the middle provinces. The total trade of C. in 1903 was of £14,567,000 linder imports. are by far the

with Great Britain. The principal ports for exports are Iquique, Pisagua, and Antologasta; Coquimho, paraiso, Valdivia, and Phatia Areaas. Valparaiso is by far the most important port for imports, two-thirds of the total entering there, whilst Iquique and Talcaluano come next in importance. There are over 3500 mlles of railway linking up the ports with the industrial centres; the reilway from Valparaiso to Buenos Ayres crosses the Andes at Uspallata (9843 by a tunnel having a length of 6 m. The republic of C. is the

Chilian swan, hody and a black head and neek. By America: as an independent state it far the most important mineral found lines attained a higher degree of protein than any of the others, not important Spanish

New World.

republie is elected the centro of the industry being by delegates chosen by the people; Copiano. The only other mineral of his term of office is for five years. The executive is completed by a council of state, consisting of six departmental ministers and nine other members, nominated by the president. The legislature is composed of a senate and a Chamber of Deputies; the former, consisting of one member for every three, or two, deputies sent by each province, is elected for nine years; the latter, consisting of one member for every 30,000 inhabitants in a department, for three years. The finances of the country are in a satisfactory condition on the whole, and the foreign debt is being reduced. The

of the state is Roman religion Catholie; there is an archbishop of Santiago and bishops of La Serena, Concepcion, and Aneud. Full religious toleration has, however, been established since 1865. The condition of education in the republic has been improved of late years; there is a university at Santiago, technical and secondary schools, and over 1500 primary schools. Since 1900 military service has been compulsory, and conscription obtains in both the army and the navy. Area of the republic 307,620 sq. m.; pop. 4,000,000. Pop. of Santiago (the capital), 330,000 (1907). See M. R. Wright, Grouth of Republic of Chile, 1904; Handeoek, History of Chile, 1893.

Chilecito, a tn. of the Argentine Republic in the prov. of and 40 m. N.W. of the cap. of La Rioja in the Famatina valley. Mining is the chief industry, gold, silver, and copper being worked. Wines are also dis-

filled. The town is connected with Cordova by rail. Pop. 4000.
Cbi-li, Chih-li, or Pe-chi-li, prov. of China, in the extreme N.E. of China Proper, bordering on Mongolia on the N., Maneburia and the Gulf of Pechi-li on the E. Area about 100,000 sq. m. A considerable proportion of the prov. lies heyond the Great Wall. In the N. and W. are mountain ranges containing almost untouched posits of anthracite eoal and Iron. The rest of the district is a fertile alluvial plain, watered by the rivers Pei-ho, Hun-ho, Lwan-ho, Huto-ho, and Shang-ho, and traversed by the Imperial Canal. Millet, maize, wheat, cotton, sugar, indigo, tobaceo, and fruit are grown. The elimate is moderate, but much damage is occasionally caused by floods in the plains and by violent dust storms. There and by violent dust storms. was a severe famine in the province in 1842, and it suffered considerably during the Taiping revolt. Goitre is very prevalent in the hilly parts. The chief town is Peking, but Pao-ting fn is the seat of administration. Tientsin and Chin-wang-tao are treaty ports. There is fair railway com-

to the next; also a period of a thousand years.

Cbilianwala, a vil. in the Punjab, British India, 30 m. N.W. of Gujerat. It is chiefly remarkable for the battle that was fought there between the British and the Sikhs on January far 13, 1849,

Chilina, or Chilian Snail, a genus of gastropod molluscs representing the family Chilinidæ. The species are fresh-water pulmonates with larger pulmonary apertures than are to be found in any others of their sub-order and their visceral commissure is unusually long. They inhabit Chili, S. Brazil, and Patagonia.

Chilka, lagoon in S.W. Bengal. British India, cut off from the Bay of Bengal by a sandy ridge. Its usual area is ahout 350 sq. m. and its depth only about 6 ft., but at the height of the rains its depth and extent considerably increases. It contains some inhabited islands, and the villages on the coast are engaged in the salt-

working industry.

Chilkoot Pass, a pass about 28 m. long, over the Rocky Mts. in Alaska. U.S.A. This pass, on the route of an ancient Indian trail, was at one time one of the chief means of reaching the Yukon gold fields from the coast of Alaska. 13 miles from its starting point, at Dyea, it reaches a height of 3500 ft.; it terminates at Lindeman, Yukon, Canada.

runon, Canada.

Chillan, in S. America, cap. of the prov. of Nuble in Chile, 112 m. hy rail E.N.E. of the seaport town of Talcaguana. It is a thriving eomercial city with trade in cattle, grain, and hand-made lace, situated on the slope of an extinct voicano in the midst of rich agricultural country.

Chillicothe, the name of two cities of the United States: 1. A city in Missouri, the cap. of Washington, about 90 m. N.E. of Kansas City; it is the largest town on the railway beis the largest town on the ranway perween Hannibal and St. Joseph. It has a trade in eoal, limestone, live stock, wool, and hides. 2. A city of Ohio and cap. of Ross; manufactures of carriages, paper, irou, leather, farming implements, and machinery. Chilling, or Chill Hardening, that process of cooling metals rapidly, so that the skin hecomes hard, leaving

that the skin becomes hard, leaving the inner portion soft. Molten iron poured into moulds, cools more rapidly at the surface than inside, the conseports. There is fair tailing to taking a polish and less the Gulf of Pe-chi-li is an extension liable to rust, surrounds the inner soft portion. Shot are chilled and quence being that a hard coating, capable of taking a polish and less soft portion. Shot are chilled and hardened by heing allowed to drop the air and thence into See Case Hardening. through water.

Chillingham, a par, township and vil. on the R. Till in N. of Northum-berland, 8 m. S.W. from Belford railway station. C. Castle, the seat of the Earl of Tankerville, was built in the reign of Edward III., its park is part of an ancient feet. Dec. (1911) 113. 711) 113. 4

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2-44), a ' 10 17th College.

Oxford, 1618; became M.A. 1623, and Oxford, 1915, became an A. 1929, and appointed fellow of the college, 1628. |flourished 620-550 n.c.; the reputed He became a convert to Roman author of the maxim 'Know thyself.' Catholicism under the influence of the Jesuit, Fisher, and went to the Jesuit College at Douay. His godfather, Dr. Laud, bishop of London, persuaded him to leave the Roman Church. He quitted Donay and studied the claims of Protestantism, and eventually entered into the fold of the English Church. He had very conscientious scruples, and declined to accept a preferment offered to him by Sir Thomas Coventry, Keeper of the claws, on the first. The species are Great Seal in 1635, because he could known as centipedes, some having in not subscribe to all the Thirty-nine fact hundreds of legs, and in diet Articles, and was opposed to the damnatory clauses in the Athanasian Creed. He wrote in 1637 The Religion of Protestants, a Safe Way to Salvation. He finally overcame bis scruples and was promoted to the chancellorship of church of Sarum (1638), and became prebendary of Brixworth in Northamptonshire. A staunen novalle, believer in the doctrine of divine right of kings, he took an active part in the Civil War, was taken prisoner at Arundel Castle by Sir William Waller, and died at Chichester. His Religion of Protestants was very popular.

Chillon, a 13th century castle or fortress of Switzerland at the eastern extremity of Lake Geneva, canton of Vaud, 2 m. S.E. of Montreux. stands on an Isolated rock connected with the mainland by a wooden bridge. It was long a state prison, but is now an arscnal. Here Bonivard, a political prisoner, was incarcerated 1530-36. See Byron, Prisoner of Chillon.

Chiloé Islands. These islands off the W. coast of S. America form, with other smaller islands, the insular province of Chili. They are 95 m. long and 35 m. wide. The main island comprises five departments, and these are called Ancud, Chacao, Dalcahue, Castro, and Conchi. Castro, the ancient capital, is a seaport town, and was founded by the Spaniards in 1556 under Garcia de Mendoza. Another seaport, Sau Carlos, is the modern seat of govern-Another seaport, San The climate is moist and healthy. Timber is exported. The chief products are potatoes and wheat.

Cbilognatha, a division of the Myriapoda, is sometimes considered to be a sub-order of the Diplopoda, and sometimes coincident with it. Special characteristics are the sevenjointed antennæ, three pairs of legs on the thoracic segments, double pairs on the posterior segments, and genital organs opening usually on the seventh of these segments. Two of the genera are the Glomeris or pill-millipede, and Julus or millipede.

Chilon, one of the seven sages, who He held the office of ephor; is said to have died of joy when his son gained the prize for boxing at the Olympian Games.

Chilopoda, an order of Myriapods established by Latreille, is characterised by the many-jointed antennæ, numerous hody-segments-all but the last two with one pair of legs, the genital opening occurring on the last segment, and maxilipeds, or poison-

they are predatory. Chilperic, the name of two Frankish kings: Chilperic I., assassinated in 583, was one of the four sons of Clotaire I. He tried to get possession of the whole kingdom on his father's death, but failed. Chilperic II., Son of Childeric II., King of Neustria; battled with Charles Martel.

Chiltern Hills, a range of chalk hills extending partly through the counties of Oxfordshire, Buckinghamshire, Bedfordshire, and Hertfordshire in England. The highest summit, near Wendover, lies 885 ft. above the sea. These hills, reaching from Goring in Oxfordshire to Tring in Hertfordshire, meet and help to form another large chalk system, which contains the White Horse Hills of Berkshire, these again continue castward, form-

ing the East Anglian Ridge.

Taking the Chiltern Hundreds. Taking the Stewardship of the Chiltern Hun-dreds is a very familiar parliamentary phrase applied to any mem-ber who wishes to resign his seat. The history of this phrase has arisen in this way: An old English statute declared that no member of parliament, once chosen, could vacate his seat in parliament. This was afterwards amended in 1707, when it was stated that a member could resign, provided he held an office of profit from the crown. Among these offices held by members of the House of Commons, were eight crown stewardships, but these did not fall within the terms of the statute 1707, for no one holding these stewardships was exempt from parliamentary duties. It was not till the passing of the Place Act in 1742 that the appointment to one of these crown stewardships to one of these crown stewardships served as an excuse for resignation. Only two of these stewardships survived, viz. Chiltern and Northstead in Yorkshire.

Chilvers Coton, a par. and vil. of Warwickshire, England, 1 m. from Kuneaton. It is mentioned in Domesday as 'Celverdestoche.' The Covon-

holds a disputed place among the of a very early date have been found Elasmobranchs, to which the sharks in the neighbourhood. and rays belong, and with the Callo-rhynchus forms the order Holocephali. They are distinguished by having four gill-clefts covered by an operculum, a few large teeth, no spiracle, one anal and two dorsal fins, and a long thin tail prolonged into a filament. The species inhabit deep filament. The species inhabit deep water in Europe and America; Ch. water in Europe and America, Ch. Collies of N. America is known as the sea-cat, and Ch. monstrosa the king of the herrings, is an ugly British species about four feet in length, which is frequently captured by herring-fishers.

Chimera (Gk. χίμαιρος, a yearling goat), a mythical animal. According to Homer (*Iliad*, bk. vi.), it was a fire-breathing monster, with the head and fore part of a lion, the body of a goat, and the hind quarters of a dragon. According to Hesiod, it was a three-headed monster, with the head of a lion, a goat, and a dragon. It was slain by Bellerophon, with the help of Pegasus, in Lycia, where it had wrought much havoe. The origin of the myth has been traced to the voicane of the name of Chimera, near Phaselis, in Lycia, and it is supposed that the summit of this mountain was frequented by llons and goats, and the marshy land at its base by monstrous screents. The C. has often been presented in ancient and modern art. It is also used as a heraldric symbol of shields. The term is often used figuratively to denote an unnatural imagining of the fancy.

Chimaphila Corymbosa, or Wintergreen, is a small overgreen woody plant of the order Pyrolacee, and is the Pyrola umbellata of Lunacus. It grows commonly in the pine-forests of N. Europe, N. Amorica, and Asia, and the leaves are valued as possessing diuretle properties joined to a tonic power. Ch. maculata, the spotted wintergreen, is also used medicinally.

Chimborazo, a mt. in S. America, one of the highest peaks of the Andes in Quito. The mountain is coneshaped, perpetually snow-clad, and rises 21,424 ft. above the sea. Many attempts have been made to climb to its summit, and Whymper succeeded in gainlug the top in 1880. The Andes form a very irregular ebain, and stretch from the Paramo de lus Papas to the Paramo de Loga In the S. of Ecuador.

try Canal passes through the parish, railway to Huaraz, which is 172 m. Pop. with Nuneaton (1911), 2505. to the S.E. It possesses a good Chimæra, a genus of fishes which harbour in Ferrol Bay. Many remains

> Chimes, the ringing of bells in succession in a belfry or church tower. The bells may number from five to twelve, and are rung by performers, one to each bell. The performer holds a rone attached to his clapper, and by a swinging movement of his arm causes the clapper to ring against the inside of the bell. Carillons are rung by striking the outside of the bell with by striking one outside of the per-former, who sounded octaves of notes by striking keys similar to the pedals of an organ, bas been super-

> seded by machinery. The carillon at

Chent has forty-eight hells. See Bell. Chimkent, or Tchimkend, a tn. of Asiatic Russia. It is in the province of Syr Daria, on one of the sub-tributaries of the Syr Daria R., about 70 m. N.N.E. of Tashkend. Strategically and commercially the town is very important, for it stands at the junction of three great trade routesfrom Fergana, Bokhara, Tashkend, and Samarkand on the S., from the Aral Sea and Orenhurg on the S.W., and from Vyernyl, Semiryeehensk, etc., on the N.E. This point is at the western end of a valley which separates the Alexander range and the Ala-tau (Talas-tau). It was taken by Russia in 1864. Consumptive patients take the koumiss cure here.

Chimney, an enclosed passage, constructed in a wall, for the escape of smoke from a fire-place or furnace, and for the purpose of producing a draught to excite the combustion of the fire. Hot air is lighter than the cool air of the atmosphere, and consequently the air, heated by the fire, rises, pushing the smoke upwards. The draught caused by the escaping current of air is in proportion to the size of the C., a greater draught heing produced by a high C. than by a small one. As the draught draws the fire and causes intense heat, the C. stalks attached to factory furnaces are built attached to factory infraces are online to a great height. As an example, the St. Rollox shaft, Glasgow, may be mentioned, which stands 455\frac{1}{2} ft. ligh. The usual proportions are for the height to be ten to fourteen times the diameter at the base, and the diameter at the summit twothirds of the lower diameter. Cs. are usually constructed so that the draught and the smoke can be regulated by dampers. In manufacturing towns regulations have to be made for the good of the community as to Chimbote, a seaport of Poru in the the length of time a chimney may dept. of Ancachs, about lat. 9° 10'S. smoke. For the construction of Ce., The town is the starting point of the consult Spon. Dictionary of Engineer-

Cs. are comparatively ing (1874-81). medorn. In Greek and Roman houses It was usual to have a hole in the roof for the escape of the smoke. Cs. were first introduced into England, pro-bably from Italy, in the late 12th century. At first they were made with wide apertures which, in practice, have proved very inconvenient, as the injet of large currents of outer air causes the C. to smeke. Ornamontal chimney-pieces were a great feature of late Gothle and Elizabethan styles. In primitive Cs. the functi semetimes projected into the room, but later the chilmney-piece, with the fireplace round it, was regarded as one of the chief ornamental features of a Carved chimneyroom. wooden pleces, with niches and adorned columns, were carried up to the celling, the lower portion being fitted with scats. may be seen shall Castle u Franc at Br ln generai use for chimney-pleees is

marblo. Chimney-sweeper. Formerly young boys were employed to climb up chimners for the purpose of cleaning They were subjected to such

fearful crucities by their masters that the matter was brought before parpassed regu-

Cs. In 1840,

These laws enacted that no person under the ago of twonty-one might ascend or deseend a chlinney or enter a flue for the purpose of cleaning it; that no child under sixteen might he apprentleed to the trade; and that every C. must buy annually a licence cost-ing 2s. 6d. The irritation of the soct frequently caused a disease known as C's cancer. In 1805 George Smart luvented a 'chimnoy-sweep' which superseded elimbing boys. It is a stiff, radlating brush of rattan, fixed

on to a long rod, which consists of jointed sections of canc.

Chimolo, or Chimiyou, a river of Equatorial Africa, which flows first S.W., then N.W. to N., finally emptyling itself into the lake of Victoria affora course of 125 m.

after a course of 125 m.

Chimonanthus, a small genus of Calycanthacore, contains only two species, both of which are natives of China and Japan, and their varieties are known as Japanese allspleo. nilens is a boautiful evergreen, but Ch. fragrans is a shrub which dreps its leaves in November. The flowers but come out about Christmas time or early in the New Year upon the naked branches. yield a delicious and fragrance.

Simildee, known technically as Troglodytes, or Anthropopithecus. apes are closely related to the gerillas, but they have longer limbs, and there is little difference between the sexes, except that the female is the smaller. They inhabit trees, in which they build night-shelters, and ali natives of Africa. Unlike the gorillas they are gentle and playful, and whon kept in captivity they oxhibit much intelligence; unfortunately, the climate of northern lands proves too much for them after two or three rears. Their dlet consists chiefly of fruits and nuts, but the Cs. are also fond of animal food. See T. Huxley's Man's Place in Nature, 1863.

China, or more accurately the Chinese Republic, is an extensive dominion of Eastern Asia of which C. Proper constitutes the principal portlen. For centuries this deminion been known as the Chinese Empire, and it is hereinafter referred to as such, although the form of government is now republican. It also includes a number of dependencies or subject territories, viz. Manchuria, Mongolia, Tibet. E. Turkestan, and the small territories between Mongolia and Tibet. Its most northerly point is about 53° 30° N. lat., while its southern extremity, the island of Halnan, is in lat. 18° N. From W. to E. It extends ever more than 60° of longitude, from 74° E. to 135° E. This yast extent of territory makes the Chinese ompire inferior in size only to the empires of England Particulars as to the and Russla. exact size and population of the empire cannot as yet be obtained,

C. Proper at about 400,000,000. occupies the S.E. portlen of the empire, and is bounded on the S. and S.W. by Cochin C., Siam, Burmah, and Tibet; on the N.W. by Turkestan; and on the N. by Mongolia. On the E. is the Pacific Ocean, known by different names at various parts of the coast. The country of Korca, on the N.E., was once a dependency of C., but the suzerainty was not much exercised during the middle of the 19th century, and lu 1895, after the disastrous war with Japan, the district fell under the control of the latter country. At the same time Formesa became part of the Japanese empire. The Chinese conpire has been oliaracterised by exclusiveness from the beginning, and the practice of this feeling has been rendered easy by the geographical situation. The em-Chimpanzee, the popular term for pire is cut off from the rest of Asla by the gonus of anthropoid Apes, or high mountain ranges and tablelands.

near the bo

has a shor

borders of I coast are bold and rocky. Then come 360 m. of sandy coast; then 350 m. bold and rocky to the Gulf of Chi-li; then 450 m. low and sandy, to the parallel of the Chusan Is; then 800 m., from Chusan to the Bay of Canton, mostly high, bold, and rocky. A number of low, sandy islands form the coast near Canton, westward of which there is an alternation of low and bold shores. The whole coast, counting only the larger promontories and inlets, extends over about 2250 m., though if all the indentations be accurately estimated, the distance would be doubled. A considerable portion of C. Proper is covered with mountains, and the whole surface may be divided into whole surface may be divided into the mountainous country, the hilly country, and the great plain. The mountainous country comprehends more than half of the whole, and the meridian of 112° E. may be conmeridian of 112° E. may be considered its eastern boundary, but to the N. of the Hoang-Ho it oxtends as far as 114°, The hilly country lies to the E. of 112° E., and extends N. to the Yang-tsze-Kiang. The Great Plain occupies the N.E. part of C. It extends in length some 700 m., from the Great Wall. N. of Peking, to the confluence of the rivers Yang-tzse-Kiang and Kan-Kiang. Its width varies from 150 fto 250 m. in the width varies from 150 to 250 m. in the northern half, and from 300 to 500 m. in the southern half; the total area is about 210,000 sq. m. The western end is the more fertile part, and it was to protect this from the inroads was to protect this from the intolands of nomadic Tartars that the Great Wall was erected about 200 years B.C. This marvellous work extends over mountains and rivers for over 1400 m. The main substance of the wall is earth or rubbish, retained on

and the In-Slan, which are a tinuation of the Thiau-Slan Mts Slberia and Chinese Turkestan, game range then extends N.E. as

Except by the sea, it was difficult for Chinese Turkestan, bound Tibet on foreigners to penetrate. The coastline the N. for a short distance, and conis almost all that of C. Proper, though tinue in C. proper as the Nan Shan. Still further S. come the continuation of the great range of N. Tibet, the Kwen-Luen. This extension stretches right across C., separating the two rivers, the Hoang-Ho and the Yangtsze-Kiang, under the names of the Pei-Ling-Shan, the Tsin-Ling-Shan, and the Fu-Niu-Shan. All these mountains gradually diminish in height as they move eastward, and become covered with the locss, which forms so conspicuous a feature of N. China, and which contributes so greatly to its fertility. Almost paraliel to the Kwen-Lucn, and forming a branch thereof, comes the Tangla range, which extends E. as the Ta-na-Shan. A southern branch of the Fu-Niu-Sban is the Hwai-Yang-Shan. Offshoots from the Tangla rango, itself a branch of the Himalayas, and from the continuation of the main Himalaya range, run almost due N. and S. along the S.W. boundary, chiefly through the provinces of Sze-Cliwan and Yun-Nan. However, the most extensive range of southern C. most extensive range of southern range, a spur of the Himalayas. It commences in the province of Yun-Nan and runs N.E. in several parallol ranges to the Pacific, where it ends at the mouth of the Yang-tsze-Kiang. These ranges run through most of the southern coast provinces. The rivers of C. form one of its most conspicuous features. In the N. they usually bear the name Ho. in the S. that of Kiang. Therearenumeroussmallindependent rivers, but most of them fall into the Hoang-Ho and the Yang-tsze-Klang, two of the largest rivers of the globe. They rise in close proximity in off-shoots of the Kwen-Luen range in Tibet. The Hoang-Ho, or Yellow R., flows for a time parallel to the mountains, and then makes a large sweep to the N.E., through the pro-vince of Kan-su. Its curve then foleach side by a strong casing of stone and brick, and terraced by a piatform of square tiles. It commences at the Gulf of Liao-Tong, whence it extends westward to the Chia-yu

extends westward to the Chia-yu

says the Man-Sun range into Mongolia. Turning due S., it then forms the boundary between the provinces of Shensi and Shan-sl. At the S. of the latter it turns due E. again, and runs through Ho-nan. It then inclines to the N.E. before entering Shan-Tung, and enters the Gulf of Shensi and chart it turns due E. again, and runs through Ho-nan. It then inclines to the N.E. before entering Shan-Tung, and enters the Gulf of Shensi and Shan-sl. Its chief tributary is several mouths. Its chief to several mouths. It should be several mouths. Its chief to several mouths. It should be several mouths o navigation. of the part of

ess than nine Rhingan Mts., entering Manch

Khingan Mts., entering Manch

and ending at the Amur R. The is in continual danger of lnundation.

Altyn Tagh Mts. traverse the S. of As a result, there are no large towns

['ung

having

province, and, after a tortnous course into the Hu-peh it turns to the S.E., then to the N.E., then S.E. again, and finally runs in a N.E. direction. to empty itself by an estuary into the Eastern Sea. This river is the chief waterway of C. Its total length is waterway of C. Its total rength is nearly 3000 m., and along its banks are many flourishing cities, among which may he named Han-kau, Wnchang, Ngan-King, and Nan-King. The river is navigable by large steamers for the last thousand m. of

on this part of its coast. The Yangbends part of the plain and the teze-Kiang also rises in Tibet, and peninsula of Shan-Tung. Chief towns flows in a S.E. direction as the W. Tsi-nan, Yen-chan, and the British boundary of Sze-Chuan. It makes a port of Wci-hai-wei. (3) Kiang-Sn semicircular hend at the S. of this includes the low and swampy counprovince, and, after a tortuous course try on both sides of the Imperial into the Hu-peh it turns to the S.E., Canal. It contains the cities and towns of Vanchan Hsu-chan. Canal. It contains the cities and towns of Nan-king, Yang-chan. Hav-chan, and Shang-hai. (4) Ngan-Hwei, on hoth sides of the Yang-tsze-Kiang has the chief town. Ngan-King. (5) Ho-Nan, on the western marrin of the plain. Chief towns. Kai-feng and Ho-nan. (6) Hn-Peh, in the centre of the plain, is one of the most fertile provinces, Chief towns, Wu-chang, Han-kan, Han-yang, Hsiang-yang, and King-chau. (7) Che-Kiang, in the S.E. of the plain, is the chief green tea province. Its capital, Hang-chan, chang. Ngan-King, and Nan-King. The river is navigable by large steamers for the last thonsand m. of its course. Its chief trihntaries on the its course. Its capital, Hang-chan, and the Han-King, on the r. b. the minor Chinese rivers, of which the Canton R. or Si-Kiang need he canton R. or Si-Kiang need he rovince of the Che-Kiang, and extends to Tien-tsin in Chilf, where it joins the Pai-Ho, and thus gives direct communication with Tung and Peking. When the canal was in good condition it were fulfilled the purpose of its maker, Kublai, the first sovereign of the Yuan dynasty, in form ga a communication between N. and S. China. It has now been largely superseded by steamer rontes along the coast, and has been allowed to fall into disrepair. The rest of C. is also intersected with many canals, which connect various rivers and lakes. Parts of the country, indeed, are a veritable network of waterways. There are many lakes, but these are not on so large a scale as the rivers. Three only need he mentioned: (1) The Tung-ting-lu, on the Ynen-Kiang, abont 250 m. in circumferways. Three only need he mentioned: (1) The Tung-ting-lu, on the Ynen-Kiang, abont 250 m. in circumferways. Three are many lakes, but these are not on so large a scale as the rivers. Three only need he mentioned: (1) The Tung-ting-lu, on the Ynen-Kiang, abont 250 m. in circumferways. Three are many lakes, but these are not on so large a scale as the rivers. Three only need he mentioned: (1) The Tung-ting-lu, on the Ynen-Kiang, abont 250 m. in circumferways. Three only need he mentioned: (1) The Tung-ting-lu, on the Ynen-Kiang, six province, (2) Kwang-Si, it contains abortizinal vore the great plain; the next two others the moun

C. to Russia runs from Peking through used throughout the country. importance of which is growing, runs from Han-kau through the N. of Kan-su, ultimately reaching Orenburg. The Great Central Asian Trade Route, with a total length of nearly

the most north-westerly province, is traffic. The chief lines are: (1) From sterile and thinly peopled. Its chief town is Lan-chau.

Climate.—The elimatic conditions naturally vary considerably over so large a stretch of country. In the lofty Tihetan platean and the less elevated plains of Monzolia, the climate is exceedingly dry, and is marked hy great extremes of hot and cold. The hasins of the two great rivers, heing nearer the Pacific, are moister and more equable. In this part of C. proper the dry season lasts from November to February, the remaining months, particularly May, heing extremely wet. The rainfall is of a copious tropical nature. Generally speaking, C. is a cold country in comparison with European territories in the same latitude. From July to September, however, the weather is intensely hot, and the has hranches are now in course focustruction throughout the eastern part of the empire. All the important its accompanied by typhoons, which weather is intensely hot, and the heat is accompanied by tryhoons, which are much dreaded for their violent and devastating effects.

Roules, railroads, etc.—C. is interrected in all directions by roads and extent in all directions by roads and extent of repair. They are, in fact, not the country aids their own assidnous kept at all, as the government spends efforts. Wheat, barley, millet, and nothing for this purpose. The roads other cereals are cultivated mainly are mostly mere tracks, but such as in the N., while in the S. attention is they are they have been used for own; chiefly given to rice. The flora and turies. Twelve of the ancient traderoutes have been used from time important pean vegetables are everywhere proroutes have been used from time imrone, so most of the common furnmemorial. There is an important pean vegetables are everywhere protrade route from Peking to Lhasa, dnced and used. In the southern
from which town there are further regions, the southern fruits, such
extensions to India and N. Tihet. The las oranges, pomegranates, peaches,
whole length of the Himalayas is plantains, pine-apples, grapes, and
crossed by numerous passes, which the sugar-cane flourish well. The tea
make the transit from Tibet to India
easy. The two most convenient are; southern and western provinces. The
those by the Pari-vong and Karkang; use of tea as a beverage was once those by the Pari-yong and Karkang- use of tea as a beverage was once la Passes. The chief trade route from little known, hnt it is now universally Mongolia near Kiakhta on the Si-larger and more ferocious descrip-berian frontier. Another route, the tions of carnivorous quadrupeds are not common in a country 50 well peopled and cultivated. The Bengal tiger sometimes appears in the forests of Yun-Nan, but this is rare, while the lion only occurs in sculpture. Old writers also speak of 3500 m. runs from Peking to Kash sculpture. Old writers also speak of gar. The Chinese portion passes the rhinozeros, tapir, and elephant as through the provinces of Shan-Si, common in C. Cattle, sheep, and Shen-Si (Si-ngan), Kan-Sn (Lan-horses are comparatively rare, hnt Shen-Si (Si-ngan), Kan-Sn (Lan horses are comparatively rare, hnt chau), and thence to Hami, Urumtsi, the yak and the goat are bred extended hashgar. The laying down of railways was started ahout 1870, the total first line to he opened heing from the same to the yak and the goat are bred extended his properties. The properties of this line in 1876 caused such trouble that no work was resumed until the nineties. Then a northern line was constructed through Manchuria to join the Russian Transform and the properties of the argicultural advantages of the nearly 3000 m. of line were open for country, they have almost totally

neglected its great mineral wealth. The greater part of this wealth lies in the coal-fields, but up to this time hardly any progress has been made in the working of them. The richest fields lie in Shan-Si (E.) and Hu-nan (S.). The former of these, an anthracite field, has an area of nearly 15,000 sq. m., and the western half of the same province has evon richer stores of bituminous coal. Almost the whole of the south-castern Hu-nau has coal beneath the surface, but in parts it lies too deep to be mined. The provinces of Sze-Chwan, Kan-Su, Clu-Li, and Shan-Tung also contain vast stores of this precious mineral. Iroa-mining has been steadily carried on for thousands of years, but only those ores which could easily be extracted and smelted by primi-tive methods have as yet beca utilised. It is probable that the stock ls very great. In Manchuria, coal and fron lie closo together, and here tho industry is now rapidly developing. There is much iron in Shan-Si, and some in Hu-nan; in the latter province some lead is found. Gold is obtained chiefly from the streams in Sze-Chwan, and it is also in this province that copper is principally mined. Yun-nan is a rich mining province, and produces tin, copper, iron, lead, and silver. The last-named mineral is also mined in Hu-nan. The government has now become fully conscious of the country's mineral wealth, the first steps in the development of which wero the extent to .

Commerce c Chinese, having behind them more ceuturies of continuous dovelopment and civilisation than any European power, naturally show many of the inventions upon which we most pride ourselves at an early date. Printing by means of movable typo was known ia C. at an early date, and there are still Chinese books of this kind extant which were printed long before the time of Gutenberg. However, this system of setting up type, which is found so useful in languages where the number of letters is strictly time the number of treaty ports, limited, is less so in such a language as Chinese, where there are some thousands of characters, and printing from carved blocks has been much mere favoured. The making of paper also goes back some centuries before exclusive of bullion, in recent years:

the Christian era. The Chinese excel especially in routine work requiring great patience and technical skill but no originality. Their carvings and engravings on wood, metal, stone, ivory, and crystal, their gold and silver work, lacquer work, and bronze casting are deservedly world famous. Foreign methods have now been introduced into their manufacturies, and much is done by machinery. Iron works of all kinds, wool and cotton factorics, flour mills, match fac-tories, etc., have all been introduced. Tea was originally the principal Chinese export, but owing to the competition of Indian and Ceylon teas it fell rapidly. As improvement is noted from 1905 onwards. Tea is especially cultivated in the southern and west-Kien, Hu-Peh,

. Kiang, Ngan-nd Sze-Chwan. silk ladustry, though it is not yet in as prosperous a condition as It might well be. However, 27 per cent, of the world's supply of silk now comes from China. In the basin of the lower and middle Yangtsze-Klang much cotton is grown, though the exact quantity cannot be though the exact quantity cannot be estimated. Opium was grown to an alarming extent a few years ago, in spite of the fact that this drug was also one of the chief imports from India. In 1881 the value of the opium grown in C. was estimated by Sir R. Hart at £8,400,000, and its cultivation continued to extend. In 1906 extrictive movemers were larged used. restrictive measures were introduced, and some diminution is new visible. In May 1911 an agreement was made with the British government by which the import of opium from India was also reduced. It is expected that the import will be almost nil by 1915. C.'s foreign trade is a development of The Portuguese the last century. established a trading port as early as 1522, but in the course of centuries, there was no sign of chaage in the government's attitude of suspicioa and hostillty to foreigners. All official recognition and protection was re-fused to tradors uatil 1842, the year of the treaty of Nau-King. Siace that

	1906	1907	1908	1909	1910
Net imports Exports	£ 67,523.618 38,916,838	£ 67,664,222 42,961,863	£ 52,600,730 36,888,050	£ 54,477,665 44,139,689	62,331,472 51,273.654

The following tables (from the same tries for 1910, and (2) the chief imsource) show (1) the trade by countports and exports for the same year:

(1)	Imports from	Exports to	Total trade
Great Britain Hong-Kong British India United States of America Germany France Belgium Italy Russia and Siheria Japan Korea	9,552,267 23,085,393 5,918,334 3,338,890 2,376,556 371,719 1,555,131 2,160,460 10,334,017 320,717	£ 2,518 133 14,637,956 610,520 4,347,220 1,796,294 5,227,830 880,645 1,457,640 6,188,105 8,294,331 354,015	£ 12,070,400 37,724,349 6,528,854 7,686,110 4,673,160 5,599,549 2,435,70 1,525,985 8,348,565 18,628,348 674,732

(2) Imports		EXPORTS		
Opium . Cotton goods Woollen goods Metals . Cigarettes Coal and coke Oil, Kerosene Rice	£ 7,460,263 17,594,511 833,359 2,545,660 929,287 1,103,467 3,010,406 4,216,825	Beans and bean-cake		

Shipping and navigation.—The total number of vessels which entered and cleared Chinese ports during the year 1910 was 219,810, with a total ton-nago of 88,776,689. Of these 28,000 of 34,253,439 tons were British; of 34,253,439 tons were British; 3766 of 4,923,492 tons were French; 1286 of 725,279 tons were American; 5361 of 7,060,521 tons were German; 31,197 of 18,903,146 tons were Japanese; and 146,175 of 19,597,822 tons were Chinese.

Currency.—The coinage of C. has varied considerably during the ages. and even at the present day there is no approach to conformity either in money, weight, capacity, or length measures throughout the country. Hitherto the sole official coinage and the monetary unit has been the cop-per cash, of which 1000 should equal one haikwan (or customs) tacl. In a ó

has recently been issued freely from the provincial mints. The dollar now circulates through all the provinces, and notes for eash arc common. In ture 376,000,000 taels.

In 1910, 17,325,867 lbs. of tea were 1910 the haikwan tael was equal in imported into Great Britain from value to 32 kd. By the Convention China at a value of £617,830.

Treaty of 1902 with Great Britain, C. Shipping and navigation.—The total pledged

dard nat empire. in 1908.

of 98 touch, weighing one treasure-scale tael (or oz.), the unit. In 1910 this decree was cancelled and a further edict established the silver dollar of '90 touch, weighing '72 treasury-weight tael, as the new unit. Similar regulations were made to secure uniformity in the coins of less value. The same decree brought all mints under the control of the central government, instead of leaving them to the local viceroys. The principal weight measures are the liang or tael (11 oz. avoirdupois), of which sixteen (14 oz. avoirdupois), of which sixwem make one chin or catty (14 lb. avoirdupois); 100 chin make one tan or picul=1334 lbs. These measures are also generally used for liquids. The chin of 14 b English inches is the legal standard for length.

Frances.—C. first issued a budget that the very 1011 and geogra-

in 1910 for the year 1911, and according to this tho total revenue is 297,000,000 taels, and the expenditure 376,000,000 taels. The Scnate,

¹ The imports into C. from that colony come originally from Great Britain, Germany, France, America, Australia, India, the Straits, and other countries, and the exports to Hong-Kong are similarly passed on.

however, cut this down till a surplus now consists of six cruisers (the of 3,500,000 taels was given. The largest, Hai-Chi, is 4300 tons, and chicf sources of revenue are the land tax, the tea and salt taxes, the produce of the government lands, the likin, and the customs. Expenditure chiefly takes place in the repayment of loans on the army and navy and

on communications.

Government.-Until Feh. 12, 1912. C. was a monarchy, in practice almost absolute. Since that day it has been a republic. The title of Manchu emperor, however, is still retained by the late Chinese emperor, P'u-yi, who abdicated on Feb. 12, 1912. He was the tenth member of the Ta Ch'ing Ch'ao (Great Pure Dynasty), a line of Manchu origin dating from 1644. Under the monarchy the imperial power was chiefly autocratic, and government was carried on by decrees, edicts, etc., published as a general rule in the *Peking Gazette*. Many changes were made at the time of the Revolution. A cabinet was snbstituted for the old Grand Councll, Grand Secretariat, and Government Council; the Cabinet being composed of a Prime Minister, two Associate Ministers, the various ministers of state, and the heads of various boards. A Privy Council was also forme

on by the Foreign Finance; (6) Marine

ture, Wo
Posts and Communications; (10) T
Colonies, There are also a large C
number of minor boards and offices.

After the disas-

Army and navy .-- After the disastrous war with Japan in 1900, the reorganisation of the Chincse army was rapidly taken in hand, and in 1901 the original national army and the force of the Eight Banners was swept away, and an attempt was made to organise a fresh army in two divisions, the Northern army and the Southern army. Fresh edicts were issued in 1905 and 1907 which carried this plan out in fuller detail. The new army is on a kind of conscription basis, but great willingness to serve is shown everywhere. There are thirtysnown everywhere. There are thirty six divisions of the army which are finally intended to consist of 10,000 men apiece. A troop of Imperial Guards was organised in 1909. The fighting condition of none of the troops is at present at a very high standard. For centuries the military profession has been despised among the Chirege and to secure any change the Chinese, and to sccure any change it has heen necessary for the highest officials to take an active part in the new military organisation. The old Chinese navy was entirely wiped out

steams twenty-four knots original speed), various old vessels, some torpede-boats, and some new Japanese-built gun-boats. Two of the

instructed. For many centuries there has been a national system of education, dealing only with the study of Chinese literature and history, hut this was aholished in 1905, when the system of examinations giving entrance to state employments. which this training was preparatory, was also aholished. About 1870 an imperial university was founded at Peking, chiefly for the teaching of foreign languages. There is a similar establishment ar Tien-tsin, and a union medical college at Peking. There are now colleges giving Western education in many towns.

Population.—The table on p. 594 gives the populations of the various provinces as estimated by the Chinese government for the purpose of appor-tioning the indemnity to the Powers. It is to be noted, however, that the national census of 1911, estimating five persons to each family, gave only a grand total of 312,400,590. The areas of provinces are also given, with the population per sq. m. The populations of the outlying dependencies may be roughly estimated as follows: Manchuria, 20,000,000; Tibet, 6,500,000; Sin-Kiang (i.e.

ligion), Buddhism, and Taoism, are officially recognised by the Chinese government. Confucianism is a moral system which definitely refuses intercourse with the unknown, and emphasises the duties of the present life. Confucius permits ancestor worship, but it cannot be said that he himself is worshipped. Taoism, taught by is worsimpled. Taoism, taught by Lao-tse, a contemporary of Confucius, is an elaborate rationalistic philosophy. On the introduction of Buddhism, Taoism took over in a slavish fashion all the ceremonial of the latter cult, and the two are now hardly distinguishable. Buddhism entered C. in the 1st century A.D., and spread rapidly in a somewhat new form throughout the country. It is, however, despised by the educated classes. Mohammedanism was introduced in the 7th century A.D., and spread with such success that there are now 20,000,000 adherents of this faith in C. A large native literature in the war with Japan. The navy has grown up around it. Christianity

China

was introduced by the Nestorians at jently, of late origin. In 2205 B.c. the beginning of the 6th century, but begins the Hia dynasty, of which the died out after flourishing for a short first emperor, Yū, came to the throne time. In 1247 the first Catholic missias successor to Shun on account of his time. In 1247 the first Catholic missionary, Friar John of Carpini, entered C., and in 1581 the Jesuit. Friar Roman Catholic faith has now over type of the had king, was overthrown, a million adherents, while Protestantism has ahout 100,000. No Protestant mission entered the country. This also hegan well with its first testant mission entered the country. The emperor and the state officials form the hierarchy of the Confucian code, and so there is no paid priesthood.

History.—No trace is found in history. The period of the Chon so there is no paid priesthood.

History.—No trace is found in history. The period of the Chon ancient Chinese literature of any dynasty forms, indeed, one of the tradition on which a theory might he classical epochs of Chinese history. founded as to the original source of Wu-wang, the first emperor, aided by

Province		Area, Eng.	Pop.	Pop.persq.m.
Chi-li Shan-tung Shan-si Ho-nan Kiang-su Ngan-hwei Kiang-si Che-kiang Fo-kien Hu-peh Hu-nan Shen-si Kan-su Sze-chwan Kwang-tung Kwang-tung Kwang-tung		115,800 55,970 81,830 67,940 38,600 54,810 69,480 36,670 46,320 71,410 53,380 75,270 125,480 99,970 77,200 67,160 146,680	20,937,000 38,247,900 12,200,450 35,316,500 13,980,235 23,670,314 26,532,125 11,580,692 22,876,540 35,280,685 22,169,673 8,450,182 10,385,376 66,724,890 31,865 251 5,142,330 31,865 251 5,1650,282	172 683 149 520 362 432 352 316 494 494 492 266 1111 814 319 67 114 84
Total .		1,532,420	407,253,020	Average 266

the race. The Chinese have their own | his brother, Chou-kung, set to work traditions as to the history of the to weld the disunited members of the human race, and this shows no signs of any migration. After the time of this he made use of a system which P'an-ku, the first man, they tell of we must describe as feudal. He ten periods of sovereigns, to the brought peace and prosperity to the reigns of whom most of the great ad- whole land. Agriculture improved, reigns of whom most of the great adwhole land. Agriculture improved,
vances in civilisation and culture are everywhere great public works were
assigned. The first emperor of whom constructed, the nonadic life came to
a detailed account is given is Fu-hi, an end, and the foundation of the
whose life-time tradition fixes as political system was laid. Literature
2852-2738 B.C., but he is regarded by and the arts flourished during the
many as a supernatural and semiwhole Chou period. The emperor was many as a supernatural and semi-human heiog. Following him, and forming with him the group known as 'The Three Emperors,' come Shōn-nung and Huang-Ti, carrying the story down to the 24th century Exam and Shun, who are regarded by popular Chinese history as types of perfect emperors. On their heads are perfect emperors. On their heads are perfect emperors. On their heads are perfect on poles of virtues, all, appar-details are also mostly trustworthy. neaped up piles of virtues, all, appar- details are also mostly trustworthy.

The record is given of an eclipse about, and the former prince came to which occurred in the reign of Yu-the imperial throne under the title of wang, and astronomers have calcu-lated that the date given for this is founder of the Han dynasty. After perfectly accurate. The date of the this period the Chinese political sys-eclipse, Ang. 29, 776 B.C., Is, however, generally considered as the first | d certain historical point in Chinese history. During the century immediately following, disintegration set in, and the kingdom fell into five states, the period heing known as that of the Five Leaders. The fortunes of each state varied considerably year by year, but the state of Ts in, on the western border, generation, ally remains the most prominent. This wasfollowed by a period of still greater anarchy and internecine strife known as that of 'The Contending States.' In the midst of this disordered time come the three great Chinese sages, within a century or two of each other. First comes Confucius, horn 551 B.C., the first historian of his country. It was he who united all the traditions of government and conduct handed down through the ages, and welded them into the system of morality which his country has preserved which his country has preserved since. He lays particular emphasis on the centralisation of anthority, that being a particular need of his age. The father has absolute authority and the emperor is over his family, and the emperor is the father of the state. Lao-Tze (Laoeius) and Meneius also belong to this period. The Chou dynasty was now very weak, and the infinence of Confneianism was not strong enough to secure unity. The king of Ts'in made war upon the Emperor Nanwang, and with him the Chou dynasty ended in 256 B.C. For a time there was no emperor, but in 249 B.C. the Ts'in dynasty, from which the name of C. is derived, had its beginning. Chwang-siang-wang, nominal the founder of this dynasty, died in 246 B.C., and was succeeded by Shi Hwang-ti, the first of the 'universal emperors.' This emperor set himself emperors. This emperor set himself to do away with the feudal system, and to do this he heheaded some hundreds of the scholars, among whose ranks the system found its clief supporters. To him is attributed the building of the Great Wall, and be is also said to have made many canals, ete. For many centuries the Chinese had heen engaged in warfare with the Hlung-nu, probably connected with the Hnns, and Shi Hwang-ti led a successful expedition against this tribe, driving them into Mongolia-He also extended the empire south-ward as far as the Yang-tsze-Kiang-On the failure of the Ts'in dynasty, war broke out between Liu Pang and Hiang-Yu, two leaders of the success-

One, at any rate, has been tested. ful rehellion which had brought this follow no tasties are chronicled, not one of which lasted for more than three centuries. period of the Hans was one of great progress. Shi Hwang-ti, ln his enmity against the literate classes, had ordered the destruction of all the books, except those on ordinary sciences, and an effort was made to repair the effects of this wholesale destruction. The system of competitive examinations, which lasted until the 19th century, was now instituted. Except for successful campaigns with the Hiung-nu, the empire remained at peace. In the reign of mained at peace. In the reign of Wu-ti (140-86 B.C.) the power of the Tartar marauders was broken, and castern Turkestan was made subject to the emperor. Many states on all sides were also absorbed, and the Han period ranks as one of the greatest epochs of Chinese national prosperity and expansion. The prosperity and expansion. The Chinese—especially those of the N.—still rejoice to call themselves the 'sons of Han.' To this dynasty, which ended in A.D. 220, succeeded an epoch of misrule and disturbance, that of the Three Kingdoms, which lasted for forty-five years. Then the dynasty of the Western Tsius was established by Sz-ma Yen, who took the title of Wn-ti. To this succeeded a chaotic period under the ceeded a chaotic period under the Eastern Tsius, which family lost power in 419. This period is notable for the reception at the Chinese court of an embassy from the Roman empire, which was then sharing with the Chinese the menace of the Tartar hordes. For two hundred years after 419 almost all trace of ordered government was lost. No less than fifteen dynasties succeeded to the throne during this period. In 618 Li Yuen, taking the name of Kao-Tsu, made himself the first emperor of the great Tang dynasty. The three hundred years which followed, to its full in 907, were years of great expansion and progress. At first the power of the Turks on the W. was so great that they had to be propitiated, but it was not long before aggressive was not long before aggressive measures could be taken, and the frontier was greatly extended in their direction as far as Eastern Persia and the Caspian Sea. From every part of Asia ambassadors were received at the Chinese court. Later the frontier was also extended on the N. to the borders of Korea by the defeats

inflicted on the Khitán. ceeded it in 960, the Sung dynasty, was far greater. Between these two (907-960) come five minor dynasties. This is, ahove all, the period of C.'s activity. Book making, literary and the formation of printing, libraries were actively carried on The chief throughout the country. adversaries of the empire during this period were the northern Khitan Tartars. The first three kings, Tai-tsu, Tai-tsung, and Chen-tsung, carried on a campaign against them with gradually declining success, and the Chinese were finally compelled to call in the aid of the Nüchih Tartars to expel the Khitan from Liao-tung. This the Nüchili did, but they then refused to leave the country they had thus occupied. They took the offen-sive against the Chinese and ultimately possessed themselves of the whole of Northern C., over which they established the Kin dynasty, leaving only the southern half to the Sungs. Meanwhile, the power of the Mongols in Eastern Asia was increasing, and it was the northern kingdom that first felt the approach of the new danger. In alliance with the Khitán, Genghis Khau, the great Mongol leader invaded Liao-tung and captured the capital city, Liao-Yang, in 1212-13. The war continued with Mongol victories until the death of Mongol Victories until the death of Genghis in 1227. He was succeeded by his son, Ogdai, who made an alliance with the Stungs of Southern C. against the Klns. This alliance was successful, and the Kin dynasty was entirely swept away. Quarrels, however, the control between the Allice ever, then arose hetween the allies, and the Mongols swept over most of Southern C. The whole of the country also introduced more extensively by the exertions of the Jesuit, Fr. Ricci. Canton became the chief port

At the end | for foreign intercourse. But a new of the 8th century the Tang dynasty foe, the Manchu Tartars, were now hegan to decline, but that which suc- coming into prominence. In 1816 a force of these people, who had suffered much from Chinese oppression, entered the country and defeated the forces sent against them. In 1619 they took complete possession of Liao-tung, and in the following year Tien-ming, the Manchu king, declared himself independent. Meanwhile, C. itself was in a state of disunion. There were various rebel under different leaders, in forces, arms against the emperor, who finally committed suicide. None knew where to turn for help, and the general on the Manchu frontier invited the on the Manchu frontier invices the Manchus to enter and subdue one of the rebel leaders. They willingly did so, but refused to retire when their work was done. They took possession of the capital without a struggle, and of the capital without a struggle, and in 1644, the last dynasty of C., the Ta-ts'ing, or 'Great Pure.' was established. It is interesting to note the pig-tail, the plaited queue of hair worn at the back, so often considered a special mark of the Chinese, data its introduction from this time. It was imposed on them by the Manchu conquerors, whose fashion of headdress it was, and at first was received most unwillingly. However, the Manchus were in the minority, and most of their customs, etc., were replaced by those of the conquered race. Perhaps the greatest of the paace no the conquered race. Perhaps the greatest of the Manchu emperors was the second, K'ang-hi (1662-1722), who is famous hoth for learning and for generalship. He devoted himself to study under the guidance of the Jesuits, and it is to him that the country owes the great dictionary of the Chipses the great dictionary of the Chinese language. His successor, Yung Cheng. southern C. The whole of the country was a monarch of a very different was in their hands when, in 1259, type, and it is from his reign that the Kuhlai Khan ascended the imperial throne. At no period did China attain such greatness as now, under the Mongol dynasty. Its territories extended from the Dnieper to the Yerific Ocean, and from the Arctic however, due to him alone. The concean to the Straits of Malacca, duct of Portuguese traders, and the Commerce flourished even with European in the Mongol emperors that Marco Polo, the first European in the Mongol emperors the religious orders had Europe, and it was during this period in the Throne Mongol emperors that Marco Polo, the first European labir. Moreover, the ideas of civilisations are monarched to a persention of the work which the Mongol emperors had started. The change was not, Pacific Ocean, and the constant was a monarch of a very different type, and it is from his reign that the Kuhlai Khan ascended the imperial throne. At no period did China attain throne the carry throne the carry throne the carry throne was a monarch of a very different Ocean to the Straits of Malacca. duct of Fortugal Commerce flourished even with Europe, and it was during this period not impressed the Chinese favourthat Marco Polo, the first European ably. Moreover, the ideas of civilisate give the western races an accurate tion entertained by the castern and was in the service of the western races thus hrought into conditions of the control to give the western races an accurate ton entertained by the castern and idea of C., was in the service of the Great Khan. In 1368 this great dynasty was succeeded by the native Ming dynasty, famous rather for the arts of peace than for their conquests. the 19th century the attempt of C. to They, also, strove to encourage intercourse with foreign nations, and the country Christianity was the 19th century the attempt of C. to Entropy. It many Portuguese and Spanish traders is time now to turn to England, for to entered the country. Christianity was entered the country. Christianity was there and the country of C. to Europe. C. began in o centuries the

ic hands of the

East India Company. The Chinese | France received the lease for a similar objected especially to the importation of opium, and the bringing in of this drug was made illegal in 1796. Mutual distrust between government and traders had long been growing, and in 1837 the Chineso government resolved on finally exterminating the opium trade. A governor, Lin, was sent to Canton, with orders to compel the merchants there to give up all the oplum in their possession. The English werein a weak and precarious position. and the demand was complied with, but Elliott, the British governor, refused to take the further step of signing a bond authorising the confiscation of all ships afterwards engaged in the Negotiations continued for some time, which terminated with the British government's declaration of war in 1840. The British captured Chusan, stormed several cities, and finally threatened Nan-king. A treaty was then made at the latter place by which five ports, Canton, Amoy, Fuchou, Ning-po, and Shang-hai, were opened to British trade; Hong-Kong was ceded to Britaln, and a large war indemnity was paid. Various other questions were also settled, but that of the opium trade was not discussed. In 1856 fresh complications arose, over the 'Arrow' affair, and a fresh war arose. In this France joined, and after some victorics by the allies the war closed in 1858 with the treaty of Tlcn-tsin. The British then aided the Chinese to put down the famous T'aip'ing rebellion. Till the end of the century the Chinese were engaged in resisting the encroachments of the Russians in Ili, of the Japanese in Formosa and the Liu-ki Is., and of the French in the S. Meanwhile Korea, nominally under the suzerainty of C., was threatening to prove the cause of a war with Japan, owing to the encroachments of the latter power, and in 1894 this actually came. After a year of conflict the Chinese were utterly defcated and compelled to

sign a treaty at Chifu (1895), in which the independence of Korea was recognised by C., and Formosa and part of

the Liu-Kiu archipclago coded to the conquerors. At this period many new

treaty ports were opened to the west-ern powers, who aided the Chinese in return to eject the Japanese from

vigorously to reorganise ber military system. In 1897 Germany seized the

port of Kino-chou, and in the follow-

ing year C. granted the Germans a

lease of this district for ninety-nine years. In the same year (1898) Russia

also received the lease of Port Arthur

and its district, while Britain re-received Wei-hai-wei, and a ninety-

years' lease of part of Kwan-tung.

C. then set to work

Liao-tung.

time of the Bay of Kwang-chau-wan and of the islands near the bay. These predatory proceedings brought in their train a natural reaction against foreigners, a reaction which cul-minated in the Boxer rising (1900). (See Boxers, The.) In Feb. 1904 Russia and Japan came into collision over the question of Korca, and in a series of engagements, all of which occurred in Manchuria, Korea, or on the Chinese seas, Russia was severely bcaten (for details Throughout this war C. Russia). The remained a passive spectator. terms of the treaty of Portsmouth, U.S.A., which was signed on Aug. 29, 1905, in so far as they affected C., included the conveyance of the lease of Port Arthur and Dalny to Japan and the recognition by Russia of Korea and Southern Manchuria as being within Japan's sphere of influence. Korea was finally annexed to Japan on Aug. 23, 1910, and the annexation was not questioned by the powers. In estimating the factors which led up to the revolution of 1911-12 (per-haps the greatest revolution the world has yet seen if the number of people it affected be taken into account), the weakness of the Manchu court must be borne in mind. The weak and youthful emperor, Kwang-su, made an abortive attempt in 1898 to introduce administrativo reforms. This at once led to the reins of government being seized by his aunt, the reactionary and aged Dowager Empress, the emperor being made a prisoner in everything but name. There is little doubt as to the complicity of the Dowager Empress in the Boxer rising, but even she was forced to make some concession to the forces of progress within the empire. Edicts were issued in which constitutional reforms were promised, such reforms to be effected gradually, the whole to be completed by 1917. On Nov. 14, 1908, the Emperor Kwang-su died, and strangely enough on the following day the Dowager Empress also died. The emperor, who had died childless, was succeeded by his infant nephew, Pu-yi (born Feb. 11, 1906), who was not quite three years of age, Prince Chun, his father, being ap-pointed regent. Prince Chun was a man of enlightened character, even he was not able to withstand the court influences working against progress, so that before the new monarch had reigned two months Yuan Sbihkai, the able and reforming viceroy of Chib-li, was dismissed. With Ynan's departure went possibly the only man who could have staved off the impending revolution. The storm burst on Oct. 10, 1911, on the banks

of Hu-peh was joined by the moderndrilled troops at Wu-chang, near Han-kau. The neighhouring arsenal of Han-yang was captured and with it funds to the extent of £100,000. The movement, which was more anti-dynastic (i.e. anti-Manchu) than republican, rapidly spread, and soon embraced most of the southern provinces of C. The leader of the revolt at Han-kau was the able general, Li Yuan-hung, but the inspirer of the revolution was Dr. Sun Yat-sen, at that moment in America. The distraught central government on Oct. 14 sent for Yuan Shih-kai, who at first refused to come to its aid, but eventually did so on the court conferring on him dictatorial powers. Hc despatched Admiral Sa Chen-ping up the Yang-tze with a squadron on gunboats, and proceeded to quell the rebellion at the head of the still remaining (mostly northern) loyal troops. On Oct. 13 the rebels pro-claimed a republic in the province of Hu-peh, with Li Yuan-hung as presi-dent, and notified the foreign consuls that the property and persons of foreigners would he respected. After some indecisive fighting around Hankau, in which the advantage lay first with the rebels and then with the Imperialists (Han-kau heing recaptured and hurned on Oct. 29), a truce was arranged. In the meantime a rebel government was established at the old capital of C., Nan-king, and a convention representative of all the southern provinces was assembled first at Shangbai and later at Nan-king. Dr. Sun Yat-sen duly arrived in C., and Yuan Shih-kai seeured from the royal house in the closing days of 1911 an edict plcdging itself to abide by the decision of a national convention as to whether it should abdicate or not. The revolutionaries andicate or not. The revolutionaries now demanded that the Manchu dynasty should abdicate and a re-public he established, but Yuan strove hard to bring about a constitutional monarchy only. He sent Tang Shao yi to negotiate with Wu Ting fang (formerly Chinese ambas-sador at Washington), and Tang was apparently won over to the Republican point of view. On the other hand, Dr. Sun Yat-sen, who had been eleeted President of the republic hy the Nan-king Convention, by an act the reputation of the first owing to its situation on the of patriotic self-effacement which corinto-Manague Railway. Trade in eacept the position, and urged that accept the position, and urged that the first half by the first than the residence with the first than the residence of the first fi that further resistance was useless, that further resistance was useless, Yuan set himself to the task of making the change from the old regime R., 175 m. S. of Tientsin. It is pro-

of the Yang-tze, a district in which I to the new with as little friction as insurrections seem to he endemic. possible, and sought to procure the The rising in Han-kau in the province most 'face-saving' conditions for the retiring dynasty. On Feb. 12, 1912, the throne issued three edicts, in which it announced its will to abide by the decision of the National Convention and accept the republic, entrusting Yuan with the task of bringing about the new constitution in conjunction with the Nan-king government, and, exhorting all to peaceably accept the new order, announced the abdication of the dynasty. A constitution of seventy clauses was promulgated; the emperor was to retain his title and receive a pension, and he accorded the civility duc to a foreign sovereign. On Feb. 27 the Nan-king Assembly endorsed this de-cision by electing Yuan as President, and he was formally installed on March 10, but for a long while there was a deadlock over the question as to whether Peking or Nan-king should be the capital of the republic, the question not being settled in favour of Peking until April. Tang Shao-yi, who suhsequently resigned, was appointed Premier, Li Yuan-hung Vice-President, and a cabinet drawn from both governments was constructed. The Nan-king Assembly was dissolved. and C. seems on the whole to he going forward peaceably to her new destination. Yuan's administration has been hampered by the movements in Mongolia and Tibet towards autonomy. movements countenanced by Russia and Britain respectively. Difficulty has also heen put in the way of C. by the Powers in the matter of a de-velopment loan, but President Ynan, supported by Dr. Sun Yat-sen, capably advised by his European adviser, Dr. Morrison (fornerly Times correspondent at Peking), and with the country enjoying an exceptionally good harvest and expanding trade, seems likely to lay securely the foundations of the largest republic the world has yet seen.

China Bark, one of the names applied to the hark which yields the

drug cinchona.

ug cinchona. China Clay, see Kaolin. China Clay, see Bothmeria, GRASS-CLOTH.

China Ink, see INK.
Chinandega, in Nicaragua, a tn.
consisting of two contiguous towns,
Old C. and New C.; Important as
being the centre of a corn-producing
district purpose its situation on the

tected by a wall and three circuits of laniger is the true chinchilla, a little ramparts, and contains numerous temples, an examination hall, and a Catholic cnthedral. Has manufactures of silk and glass and a trade in precious stones. Pop. about 250,000.

China Root, the name given to the root of the tropical vine, Vitis sicyoides, and also to that of the liliaceous plant, Smilax China. plant, Smilax China. The latter plant is used medicinally, and others

plant is used intentional, and observed its genus yield sarsaparilla.

China Sea (Chinese Nan Hai, or Southern Sen), that portion of the Pacific Ocean lying to the E. of China and Siam, being bounded by China and Formosa on the N. and N. W., the Philippino Islands on the E., Borneo on the S., and the Malay Peninsuln and French Indo-Chinn on the S. and S.W. It forms the great gulfs of Siam and Tougking. Its chief affluents are the rivers Mcinam, Cambodia, Canton, Mckong, Song-koi, and Si-kiang. The chief ports arc Canton, Mnnilla, Bangkok, Singapore, Hong-Kong, and Salgon. Greatest depth, 14,250 ft.

Saigon. Greatest depth, 14,250 ft.
China-ware, see Poncelain.
Chincha Islands, three small rocky islands in the Pacific, off Peru, and about 14 m. from the coast. Total area 64 m. The islands riso to about 200 ft., and were formerly noted for guano, but have now been worked out. Lat. 13° 38' S.; long. 76° 28' W. Chinchay-cocha, lake of Peru, lying to the S. of Cerro de Pasco. Altitude.

to the S. of Cerro de Pasco. Altitude, 13,800 ft.; length, 18 m.; breadth, 6 m. Discharges its surplus waters at the N.W. corner by the Mantaro R.

Chin-chiang-fu, or Ching-klang, a tn. of Kiang-su prov., Chinn, on r. b. of Yang-tse-kiang at the junction of the Grand Canal, 45 m. N.E. of Nanking. It is connected by water with Shanghai, and is an open port under smanning, and is an open port under the Ticntsin treaty of 1858. It is the second commercial city in the empire for imports, which include opium, cottons, sugar, and varied foreign produce, and it exports silk, rice, and dried lily-flowers. The most interactive hull-ling in the city is interesting building in the city is a cast-iron pagoda, 30 ft. high, which is supposed to be 1200 years old. The 18 supposed to be 1200 years out. The fortifications have now been destroyed. The city was taken by the British In 1842, and destroyed by the Tai-pings in 1853. Pop. 140,000. Chinchilla, a tn. of Spain, in the prov. of Murcia, with industries of lead mining and cloth manufactures.

Pop. 6500.

Chinchillidæ, a family of rodent mamnials established by Bennett, consists of several genera of S. American animals allied to the agouti (q.v.). All

creature with large eyes and ears, and its fur is so much sought after that it is diminishing in numbers. In habit it is gregarious and subterranean, and in disposition it is mild. Lagidium is another genus which has its habitat in the higher Andes, and the third genus consists of one species, Lagostomus trichodactylus, the Vizcacha. See E. T. Bennett's paper in Trans. Zool. Soc., vol. i., 1833.

Chinchon, a tn. of Spain, situated 25 m. to the S.E. of Madrid. Pop.

5000.

Chinde: 1. Riv. of Portnguese East Africa, in reality the chief of the estunrine branches of the Zambesi, which empties into the Indian Ocean about lat. 18° 30' S. The mouth is more or less blocked with sand. 2. Scaport of Portuguese East Africa, at the mouth of the Chinde R. It is the chief port for the Zambesi Valley and British Central Africa, though large steamers cannot cross the sandbar at the river mouth, over which there is only a depth of 10 to 18 ft. of water. The town has only come into being since 1889. In 1891 the British leased from the Portuguese five (later twenty-five) acres of land known as the British Concession, on which goods in transit to British possessions may be stored duty free. Pop. 2790 (about 300 Europeans).

Chindwara, see CHIIINDWARA

Chindwin, or Kyendwin: 1. Riv. of Upper Burma. Rises in the Patkol Mts. near the Assam frontier, and flows in a southerly direction for about 500 m., joining the Irawadi on the r. b. hetween Mandalay and Pagan. It is navigable by steamers up to Kendat, and by native boats for about 300 m. in the wet season and about 150 m. in the dry, but navigation is rendered difficult by the sandbanks and the swiftness of the current. 2. The name given to two districts in Sagaing, Upper Burma. The upper district is mountainous and covered with forest. Area 19,062 sq. m. Capital, Kinday, Pop. 155,000. The lower district is partly wild and wooded and partly a fertile rice-producing plain. Area 3480 sq. in. Capital, Monywa. Pop. 276,000. Chinese Hemp, see Corchorus.

Chinese Labour Question, The. The history of the C. L. Q. which so agitated the public mind in S. Africa and Great Britain during the first decade of the present century may be traced back to the pre-Boer War days. The gold mine owners of the Rand (Transvaal), in giving evidence before a commission appointed by the Boer governthe species have long limbs, bushyl tails, very soft hair, and resemble coloured labour to work their mines. squirrels to some degree. Chinchilla They pointed out that certain lowif the government would increase the native hut tax and consent to the establishment of locations in order to compel the kaffir to work at reduced They further argued that wages. with an increased supply of native lahour more white labour would be employed. On the commission reporting adversely on these suggestions, the mine-owners talked of the im-portation of Asiatic labour and of closing down the mines if their demands were refused. President mands were refused. President Kruger replied by passing a law which provided that if the mines were not worked by the mine-owners, the government would confiscate them and work them itself. Then came the

the hut-tax. At the close of the war ! the mine-owners reduced native wages from 47s. a month to 27s., with the result that at that time only 42,000 natives were working, as against 90,000 at the beginning of the war. On their raising wages next year to their former level, the natives flooked hack until their numbers were the same as hefore the war. In July 1903 Lord Milner appointed a commission to inquire into the adequacy or otherwise of the sources of supply of lahour for the mines. commission reported (two members dissenting) that an additional 129,000 lahourers were necessary, and that Central and S. Africa were unable to meet this demand. On Fch. 8 of the following year an ordinance was carried in the Transvaal Legislative Council for the introduction of in-dentured labour from outside Africa S. of 12° N. of the equator. This ordinance, which received the royal consent on Mar. 11, was strenuously opposed by the Liberal party in Great opposed by the Liberal party in Great Britain and by the Boers and white labourers in the Transvaal. On the other band it was claimed that a petition in favour of Chinese labour was signed by a little over balf of the white adult population. The opinion of Cape Colony may be gauged by the fact that in May 1904 a bill was ding

left Hong-Kong on May 25, and arrived at Durban on Juue 20, 1904, and ultimately as many as 60,000 coobes were employed on the Rand. The were employed on the Kand. The Frankland Trootems, 1900; strong feeling raised in Great Britain against the employment of Chinese labour, freely characterised by opponents as 'Chinese Slavery,' was, it is generally conceded, mainly responsible for the overwhelming defeat is manufactured by combining va-

grade ores could be profitably mined of the Conservative party at the if the government would increase the general election in January 1906. party at the The new Liberal administration allowed existing contracts to carried out, but refused to grant further licenses or extend old ones. On the granting of a constitution to the Transvaal the Het Volk (or Boer) party obtained a majority in the new chamber, and this party proceeded to redeem its pledge to repatriate the Chinese speedily. Thus 17,000 left in 1907, 28,000 in 1908, and the remainder in 1909.

The Chinese labour experiment was subjected to much criticism, hoth on its economic and moral side, and government would confiscate them in the working certain predictions and work them itself. Then came the war (1899-1902) in which the Kruger the first place, from the financial and confident it was found that the apployment of Chinese had not been

profitable as the promoters of the scheme had anticipated, as, the tastes · of the Chineso being higher than those of the kaffir, the cost of feeding them was nearly double, and at the end of the contract was the expense of repatriation. On the other hand, the employment of Chinese considerably cheapened kaffir labour. It was also proved that the promise of an increase in employment of white labour due to the employment of yellow was not fulfilled, the proportion of white men to coloured of all races being 10 to 59 in May 1904, hefore the importation of coolies, whereas in November 1906 it was 10 to 84. Of the moral of coolies, whereas in November 1906 it was 10 to 84. Of the moral side of the question, apart from the distinctly servile conditions of their contract, the outstanding fact was that 60,000 coolies were herded together in compounds without their women folk. The report of Mr. Consul Bucknill on this question was supported by the government but pressed by the government, but enough is known to justify the statement that the very worst anticipations of those acquainted with Oriental vice were fulfilled. The many parliamentary debates on the subject of Chinese lahour gave rise to two or three phrases that will probably he remembered when the occurrence on which they were uttered has heen forgotten. Thus we have the Arch-bishop of Canterhury's defence of the ordinance as a 'regrettable necessity,' and Mr. Winston Churchill's charac-terisation of the term 'Chineso The terisation of the term Chinese Slavery' as a 'terminological in-exactitude.' See F. H. P. Creswell, Chinese Labour Question, 1905; L. Phillips, Transvaal Problems, 1905, and The Reformers' Year-Book, 1906,

pourised metallic zine with air, when W. coast, 116 m. from Séul. It has the pigment is deposited as a white an active trade. Pop. about 20,000. powder. C. W. is not liable to chemically chinon, an anet. tn. of France, in cal or physical change, and is practically lnert with regard to other plgments. It forms an excellent water-colour, but lacks toughness with oil.

Chingalpat, Chengalpat, or Chingleput, ehief tn. and stronghold of the district comprises 2842 sq. m.

Ching-chu-fu or Tsing-chou-fu: . Tn. of Shantnng prov., China, 50 m.

2. Tn. of Hupeh, China, near Sha-shih. Chingford, a par. and vil. of Estex.

don. Pop. 3000.

Chingleput, a tn. of Madras, British doned 16th century fort was taken snow to disappear from the E. from the French by Clive lu 1752. Rockles. Pop. 6200.

Ching-wang-tao, or Chin-wang-tao, port of Chl-ii prov., China, on Gulf of Liao-tung, 150 m. E. of Peking. One

of the treaty ports, Ching-yang-fu, a tn. of Kansn, China, on Matien R. Lat. 36° 3′ N.; long. 107° 43′ E.

Chin-hua-fu, or Kin-hwa-fu, a tn.

and dist. of Che-kiang, China. Lat. 20° 11′ N.; long. 119° 51′ E.

Chini, a tn. of Bashahr, Punjab, British India, near river Sntlis, 69 m. N.E. of Simla. Vines are largely Punjab, N.E. of Simia. Vines grown. Pop. about 5000.

Chinlot, tn. of Jhang dist., Punjab, British India, near river Chenab, 80 m. N.W. of Lahore. Noted for wood-

carving and masonry. Pop. 13,500. Chin-kiang-lu, see Chin-Chiang-ru. Chin-ling Mountains, a branch of courses. Its highest peaks are Ta-palshan and Kwang tang shan, both upwards of 12,000 ft. high. This range has several important passes, of which the chief are those connecting Si-an-fu and Shang-elion with Lungchii-chal and Feng-hsiang-in and Feng Heien with Knang-yuan Heien.

It has

Chinon, an anet. tn. of France, in the dept. of Indre-et-Loire, on the Vienne, 25 m. S.W. of Tonrs, It is situated amid most picturesque scenery; the massive eastle was from the 12th century till the reign of Heury IV. the royal residence of Plantagenet kings. Rabelais was dist. of that name in the Madras born here in 1883, and it was the Presidency, British India. Of his meeting-place of Jeanne d'Are and torical Importance since one of its Charles VII. In 1429. It has mannforts was taken by Clive in 1752. The factures of serges and carthenware, and there is trade in agricultural prodncts and In wine. Pop. (com.) 6500.

Chinook, a warm dry wind blowing E. of Tsi-nan. The former cap, of the over the slopes of the Rocky Mts. It prov. and a centre of the silk trade. is a local wind similar to the Föhn of the Alpine vaileys, and is due to a cyclone passing northwards and last-England, situated between the R. Lea, ing from a few hours to several days. and Epping Forest, 10 m. from Lon- The dynamic pressure to which the air is subjected in passing to a lower level is the cause of its dryness and India, capital of dist. of same name, warmth. It is felt as a cool wind in 34 m. S.W. of Madras. The aban-summer, and in winter it canses the

Chinoo'---- ------ ' "ye of Ching-tzu-kuan, a tn. of Ho-nan, Americar e ex-China, on Tan R. Of considerable treme N.

commercial importance, heing at the tribe is now nearly extinct, numbering the commercial importance, heing at the tribe is now nearly extinct, numbering the commercial importance. head of winter navigation on the inity about 600 persons and inhabitativer and on the Hankow to Si-an-fuling a small area on the Columbia R. in Washington. The C. were formerly Ching-wang-tao, or Chin-wang-tao, great traders, Dartering with the great traders, partering minimized interior tribes the articles they obtained from the white skippers. The useful 'Chinook jargon' came into being as a means of communication rendered necessary by this commerce. Sec Shaw, The Chinool: Jargon, 1909.

Che-klang prov., China, at mouth of an American species of Fagaceæ the Yungklang, 10 m. from Ning-po. closely allied to the chestres. plant is smaller than the common chestnut, and the frult is also edible.

chin-sha, or Kinsha-kiang ('river of golden sand'), Chinese name for the upper conrse of the Yangtsekiang, rising in the mountains of the Kuen-lun system, dividing China and Tibet. It is separated by mountains from rivers Hoang-ho and Mekong.

Chinsura (Chinsurah), tn. of British India, Bengal Presidency, on river Hugli, now included in Hugli elty, the Kwen-Inn Mts. in China, dividing 24 m. from Calcutta. It is the seat of the Wei and Han rivers in their upper Hugli College. From 1656-1824 the chief Dntch settlement in Bengal, ceded to the English with other places in exchange for possessions in Sumatra Island. Pop. about 5000.
Chintz (Hindu cint, Beng. cit, from

-an-fu and Sliang-clion with Lung-di-chial and Feng-hejang-fn and originally the name of pieces of mig Heien with Kuang-yuan Heien. Chinnampo (Chinampho), since 1897 India, each piece belng a 'chint,' Tree nort of Verge and the Weight and the chind of a free port of Korea, on river Taldong. Later applied to a highly-glazed.

printed calico of home manufacture, with a many-coloured pattern of flowers or birds on a light back-ground. C. is used for curtains, furniture coverings, etc., and often draped round bassinets. Dust does not adhere to its calendered surface. See CRETONNE.

Cbinu, a tn. of Colombia, dept. olivar, 95 m. from Cartagena. Bolivar. Valuable treasure was found here by Heredia in the tombs of the Indians.

Pop. (dist.) 10,000.

Pop. (dist.) 10,000.
Chiococca, a genus of Rubiaceæ which consists of seven species, all occurring in tropical America. root of several of these plants is possessed of ometic properties, and *C. anguifuga* is used by the natives as a remedy for snake-bites.

as a remedy for snake-bucs.
Chioggia (Chiozza), cplscopal city
and fortified port of Italy, 15 m. from
Venice, 63 from Padua. It is built on
piles on an island in the S. of the
Venetlan lagoon, surrounded by the
Lombard Ship Canal, cut in two by
the Vena Canal. A stono bridge of 800 ft. with forty-three arcbes connccts it with the mainland, and a mole, built 1774-82, protects it from the Adriatic. Internal trade is carried on by means of the rivers Adigo, Po. Brenta, and by canals. The Board of Trade building (mediaval corn-hall) dates from 1322, the cathedral from 1633. Fisherles are important, flax-spinning and shipbuilding are carried on, and sails, lace, candles, and bricks manufactured. The Latin name was Fossa Clodia, mediaval Cluria. In 1379 Venice conquered the Genoese fleet off C. Pop. (commune) about 30,500.

Chionea, a genus of Diptera in the family Tipulidæ, bas several pecullar features, and the species are destitute of wings. C. araneoides has been found in the woods of Sweden and the mountains of Austria when both were covered with snow, the insect showing itself only in cold weather.

Chios, island and port in the Ægean Sea, belonging to Turkey, called Chlos by the Greeks and Saki Adas by the Turks. It lies off the W. coast of Asia Minor, at the entrance to the Gulf of Smyrna. It has suffered ter-ribly at the bands of the invaders and from earthquakes. It was at the height of its prosperity in 1822, when a wholesale massacre took place, owing to the revolt of some of the inhabitants. In 1881 the island was devastated by an carthquake in which over 56,000 people perished. In ancient times C. formed one of the twelve Ionian states, and was instrumental in helping the Greeks against the Persians, for lt provided Greece with a fleet of 100 ships. The Persians

battle of Miletus. C. Is the reported birthplace of Homer, and here the Homeridee, or school of cpic poets, flourished, whose task it was to band down the Homeric text. The town in which the Homeride lived is still extant, and is called Volisso (formerly Bolissus). C. is famed for its sculptors. As regards the features of interest in the island, situated on the hill stands an altar built to the goddess Cybele, and here is a statue of the goddess with her two lions, chiselled from out the rock. A monastery and church are situated on the W. coast, whilst Cape Phanae contains a harbour and a temple of Apollo. C. is about 30 m. long and varies in breadth from 8 to 15 m. Its capital is a thirving town, and manufactures silk and woollen goods. This island is one of the most fertile spots in the Levant, and yields rich produce of all kinds, principally wino, figs, lemons, oranges, and olives. Pop. 64,000. Cbiozza-Money, L. G., see MONEY,

L. G. CHIOZZA.

Viollet - lc - Duc, and Danjoy, Hlś violet-16-Duc, and Danjoy. His architectural productions are comparatively few, but include one of the fivo monuments (1872) commemorating the slego of Parls (1871), and L'Ecolo Nationalo d'Armentières (Nord), 1885-8. He is chiefly noted for his writings on the history of art. Histoire Critique des Origines et de la Formotion des Ordres Grees appeared in 1876. Joint author with Perrot of L'Histoire de l'Art dans l'Antiquité (8 vols.), 1881-1904, a most valuable

to vois.), 181-1904, a most valuable work; and of Le Temple de Jérusalem et la Maison du Bois-Liban, 1889. Chiplun, a small tr. of India in the Bombay Presidency, situated about 20 m. inland, and 75 m. S. of

Bombay.

Chipmunk, or Tamias striatus, a species of ground squirrel common to N. America, and belongs to the family Sciuridæ. It is a pretty creature, differing from the common squirrel chiefly in baving large eheek-pouches and a shorter tail. Its diet is strictly vegetarian.

Chippendale (d. 1779), a famous cabinet-maker and upholsterer of the 18th century. He came to London from Worcester with his father, a well-known cabinet-maker and woodcarrer, and ultimately established hiuself with his factory in St. Martin's Laue. Check the chart for the straight of all by which without the whoes; like ribbon-backed chairs are perhaps his most successful work, and noxt to these lus settees of two or three were victorious, however, in the conjoined chairs. He published The

Gentleman

and descriptions.

Chippenham, a tn. on the l. b. of the Avon in Wiltshire, 22 m. from Bristol. One of its bridges across the river has twenty-one arches. It is eclebrated twenty-one arches. It is eclebrated for its cheese market, and yields a good harvest of corn. This town is of historical interest, because it was occupied by the Saxon kings in Wessex, and King Alfred was forced to flee from the city when surprised by the Danes. Pop. (1911) 5332.

Chippewa Falls, banking city of Wisconsin Juited States aga of Chippewa Falls, banking city of Wisconsin Juited States aga of Chip

consin, United States, eap. of Chippewa eo., on river Chippewa, 85 m. from St. Paul (Minn.), 12 m. from Eau Claire. It is on the Wisconsin Central and other railways. foundries and mills (for flour, wool, lumber, etc.), worked by the waters of the river. Tonc Rock battleground is near, and the city is noted for its pure spring waters. Chartered as a city 1870, it has its own mayor and town council. The State Home for the Feeble-minded and the County Insano Asylum are situated here.

Pop. about 8890.

Chippewayans, a numerous tribe of Amorican Indians of the great Algonquin stock, now sottled in almost oqual numbers in Minnesota and in Canada, but formerly inhabit-ing Wisconsin. Their name is writton also Objibway, Otchipwo, and Ojib-beway, a term which may possibly refer to the 'puckered up' appear-ance of the front seam of their moccasins. They were the hereditary and inveterate focs of the Sioux and the Foxes whom, with the help of guns purchased from French traders, they drove out of their habitat, and themselves became masters of an extensive territory. They now number about 28,000. of whom about 12,000 are in Canada. In person they are tall, activo, and well-formed. They fish, hunt, gather wild rice and eranberries, manufacture maple sugar, weave baskets and mats, and prepare

birch hark for canoes, etc.
Chipping Norton, the ancient Chepyngnorton, a municipal bor. and mrkt. tn., 25 m. by rail N.N.W. of Oxford. It consists of one large street with a fine Gothio church. Woollen and glove factories, brewing and agricultural trade. Pop. (1911)

3972.

Chipping Wycombe, see WYCOMBE. Chiquichiqui Palm, or Leopoidinia Piassaba, a Brazilian palm noted for the good fibre obtained from its bast. The piassaba fibre is used in brush-making and the leaves in thatching.

and Cabinet Makers' | Guatemala. The ruins of C. Antigua. Director, containing his own designs destroyed by carthquake in 1773, are near. It has an active trade. Pop. about 4000. 3. Isthmus of Central America on Caribbean Sca, between mouth of the Motagua and the corner of Honduras Bay.

Chiquinquira, clty of S. America, in dept. of Boyaca, Colombia. 44 m. from Tunia, 80 m. from Bogotá. Noted for its chapel with a miraculous picture of the Virgin, annually visited by thousands of pilgrims. Every seventh year there is a special public celebration. Has cattle-grazing and

trade. Pop. 18,000.

Chiquitos, a group of American Indian tribes dwelling in the province of Santa Cruz de la Sierra, Bolivia, and about the head-waters of the rivers Mamore and Itenez. They are well built, powerful, and of middle helght, with bronze complexion, low forcbeads, large round heads, and small bright cycs; they are hospitable, kindly, cheerful, and fond of muslo and dancing. They live in villages founded by Jesuit missionaries whom they willingly received in 1691, and who rapidly converted and civilised them. Since the expulsion of the Jesuits in 1767 they have degenerated considerably. They number about 20,000, and live in adobe houses that hed with grass; they are princi-

sugar making, and straw hats.

Chira, Cheera, or Tchira, a tn. of E. Turkestan, Central Asia, 50 m. from Khotan. Gobi Desert skirts it about 3 m. to the N. Pop. about 40,000.

Chirála, a tn. of Madras, British India. Kistna dist., 70 m. from Masu-lipatam. Pop. 10,500 (chiefly Hindus).

Chiretta, or Swertia Chirata, an Indian species of Gentianaceæ. The plant is extremely bitter, and when at its best it is gathered, dried, and the drug C, is extracted from it. It acts as a stimulant and tonic, and in India it serves as a febrifage.

Chiriqui, a prov., riv., lagoon, and archipelago of Central America, in w. Panama, Colombia. The river

nd separated by Chiriqui n has three

ontrances, Boca dei Drago, dei Toro (on each side of Isla dei Drago) in N.W., Boca dei Tigre on E., and is navigable for the largest ships. It extends 90 m. along the coast, and 40 to 50 m. inland. The province has lofty volcanic peaks (Chiriqui, about Chiquimula: 1. Eastern dept. of 12,000 ft.) and a fertile soil. Tobacco, Guatemala. Pop. 65,000. 2. Capital sugar-canc, and bananas are grown. of abovo, ancient city, 65 m. from Pop. about 40,000.

movement.

Chiromaney, see PALMISTRY.

Chiromo, or Chilomo, vil. and trading-port of British Central African Protectorate, Nyassaland, at confluence of Rs. Shiré and Ruo, 55 m. from Blantyre. A road is to be made from C. to Zomba.

Madagaseariensis, Chiromys single species and genus of the mammalian family Chiromyidæ, is a singular animal allied to the lemur. A singular annual and to the lend, termed, from its plaintive voice, the Aye-Aye. In appearance it is squirrel-like with a bushy tail, large ears, and long incisor teeth; the manus has a long, thin third digit, and all the digits are clawed, the thumb is opposable and has a flat so swift and alert that great on all, so also has the big toe. The use is experienced in its capture. of the third digit is not definitely known, it has been seen to use it in eombing out its hair, but it is believed to serve ebiefly for picking eaterpillars out of the bark of trees. The diet of the aye-aye consists of buds, fruits, insects and their larve; in babit it is nocturnal, and during the day it conceals itself in a secluded retreat. In captivity it has shown itself timid, inoffensive, and very slow of

Chiron, or Cheiron, one of the Centaurs, son of Cronos and Phiiyra, a sea nymph. C. was wise and just, while the other centaurs were uncivilised and fieree. He was the instructor of Actmon, Jason, Castor, Achilles, and other celebrated Greok heroes; he taught Aseloplos the art of healing. He was aecidontally wounded by a poisoned arrow shot by his friend Heraeles. To free himself from the pain caused by the wound he renounced his immortality in favour of Promethous, and was set among the stars as the constellation Sagittarius.

Chironectes, the water opossum, a genus of marsupials, is represented by ono species which inhabits S. and Central America. It is about the size of a rat, has webbed hind feet, and

feeds upon fish. Chironomus, the chief genus of the midgo and gnat family or Chirono-mide, contains over two hundred British species. The perfect fly is two-winged, and the blood-red larva is often called a blood-worm by anglers, who use it when fishing. dwells in mud and forms food for birds and fishes. The swarms of little grey flies which dance actively above water on summer evenings belong

Chiropodist (Gk. χείρ, the hand, and (genitive) πους, ποδός, the foot), one who is consulted about or who treats ailments of the hands and feet. The term manieurist is now used for those who treat the hands.

to this genus.

Chiroptera, see BAT.

Chirotes canaliculatus, a worm-like lizard of the family Amphisbenide, forms in itself a genus, and bears the proud distinction, wanting in all its relations, of possessing two small anterior limbs each with two toes. The C. is to be found in Mexico, and in length it varies from about S in. to 1 ft.

Chiru, or Pantholops, a Tibetan genus of antelope comprising two genus of antelope comprising specie. The animal is pale fawn in colour with woolly hair; the male alone has horns, and these are long. straight, ringed, and gazolle-like. It is nearly three feot in height, and is so swift and alert that great difficulty

Chirus, a genus of acanthoptery-gious fishes, is common to the seas of Kamtehatka. They are shore fishes with several lateral lines, and belong to the family Heterolepidotide or Hexagrammidæ.

Chisel (M. Eng. chisel or chesil, from O. Fr. cisel), a tool used in carpentry and metal work, consisting of a blade with a bovelled or sloped cutting edge at one end and a handle at the other, which is prepared either for the grip of the eraftsman's hands or to receive the blows of a hammer. Cs. differ widely in shape and purpose, and receive their name according to their use or shape. Thus, there is the cold chisel, which is used for cutting unheated metal and stone. It has its cutting edge sharpened on both sides, and is formed of highly tompered steel. It is driven by a hammer. Carpenters' Cs. are driven by hand or by blows from a mallet. The ordinary implement is wooden-handled, and the blade is bevelled on one side only, the bevelled face meeting the flat side at an angle of about 20°. Stone-masons' Cs. are bevelled on both sides and vary considerably in shape; the boasting chisel is used for roughly dressing the surfaces of stones. earving ehiscl is one of the most delicate of these instruments. It is bevelled on both sides, and the two faces meet at an extremely acute angle, that it may lightly cut the wood without crushing it out of shape. The spaon-chisel is a bent instrument, bevelled on both sides, used by seulptors. Among other varieties may be named the dental C., the turning C., the mortise C., and the ripping C. Certain Cs., with semi-circular blades used for gouging, are generally known gouges.

Chishima ('Thousand Isles'), tho Japanese name of the Kurile Is., oxtending from Kamtehatka to Yezo.

Chisholm, Alexander (c. 1792-1817), Scottish painter, early apprenticed to He moved to London, 1818, exhibiting at Royal Academy, 1822; associate exhibitor of Water-Colour Society, 1829. His chief works were historical groups and portraits. He also did illustrations for the Waveriey novels. Among his works are: 'Boys with a Burning Glass,' 1822; 'Shakespeare before Sir Thomas Lucy, '1834; 'The Cotter's Saturday Night,' and 'Bap-tism of Ben Jonson's Danghter,' 1837; The 'The Pediar' (South Acusing Museum); 'Signing of the Covenant in Greyfrairs' Churchyard, 1847; 'Minister and his Wife Concealing the Church,' 'The Pedlar' (South Kensington the Scottish Regalia in the Church, 1846.

Chisiehurst, an urban dist. of Kent. England, 111 m. S.E. of London on the S.E. and Chatham Railway. It is delightfully situated on a common, where grow furze, heather, the blackberry, and wild rose. At Camdon Place, in the vicinity, Napoleon III. died in 1873, and the Empress Eugenie lived here for some years with the Prince Imperial, to whose memory a cross has been erected on the common. There is a chain of interesting subterranean caves whose origin and use has not been fixed with rields glucosamide in acids, and is certainty, but they are believed to insoluble in alkalies, be ancient storehouses and hiding. Chitonidæ, a fam

tnral Society, and many large market gardens. It contains Hogarth's house, and his grave in the church-yard. Pop. (1911) 38,697. Ecclesias-tical parish (with Turnham Green) about 5000.

Chita: 1. Tn. of Boyaca, Colombia, 74 m. from Tunja, 150 from Bogotá. On W. of snow-covered sierras, with important mine of rock-sait, 'salina, on the other side. The saline springs are also noted. Pop. ahout 10,000. 2. Th. of E. Siberia, Russia, cap. of

a weaver, went to Edinburgh about guzin and the Chinese frontier 1812, becoming teacher at the Royal (Kiakhta); it has schools, news-scottish Academy, under the patronpapers, and much trade, supplies age of the Earls of Eigin and Buchan. He moved to London, 1818, exhibitary forces on the Amur when Royal and the Chinese frontier. Ingoda is navigable in spring. Pop. about 17,000.

Chitaldrug, or Chitaldroog: 1. Dist. of Mysore, British Indla, very nnhealthy, hence the least populous in Mysore. Arca 4,470 sq. m. In 1876-78 it suffered greatly from famine. Present pop. about 500,000. 2. Cap. of above, town and fortress of Nagar, 73 m. from Bellary, 128 m. from Seringapatam, at the base of a cluster of hills. Noted for a wonderful rockfortress. Cantonments are abandoned because nnhealthy. Mannfactures cotton cloth and coarse hlankets, Ancient name Sitala Durga ('Spotted Castle'). Pop. ahout 4500.

Chitambo, a vii. of British Central Africa, sitnated about 10 m. to the S.E. of the southern shore of Lake Bangweolo. It is noted as place where Livingstone died in May 1873.

Chitin, a skelctal substance found in all arthropods, forming most of their hard parts, and also in some other animals, e.g. the brachiopod, Linguia annima. It is a white, amorphous substance containing nitrogen,

Chitonidæ, a family of molinscs places. Pop. (1911) 8666. usually classed among the Gastro-Chistopol, or Tchistopol, a dist. and poda, consists of marine animals usually classed among the Gastro-Chistopol, or remsupor, a distance of Kazan, Russia. ranging in size from nan an arrange of covernment of Kazan, Russia. ranging in size from nan arrange of the port on R. Kama, 70 m. from Kazan, half a foot; some are littoral and port on R. Kama, 70 m. from Kazan, half are not considerable corn-trade. Pop. others have been dredged from a littoral and considerable corn-trade. 20,000. Others have been dredged from a depth of 2300 fathoms. All the species are hilaterally symmetrical, the of Middlesex, England (London suhnrb), Ealing division, 7 m. from St. Paul's, on l. b. of R. Thames, 'Chiswick and Grove Park' is on the London and Sonth-Western Railway; 'Chiswick Park and Acton Green' table matter, and in habit are like on District Railway. The Duke of Dovonshiro's villa, Chiswick House, selves to rocks, but can crawi hy is here; also gardens of the Horticultural Society, and many large market gardens' the society and socie

Chitrai, the name of a native state in the North-West Frontier Province, India, and of its capital. The state has an area of about 4500 sq. m. In 1885 the Lockhart mission visited C., and in 1889 and again in 1891 the them that he remarks ha advice as to the foreign policy and defence. Since 1895 Great Britain has exer-cised a protector-hip over the state. z. Th. of E. Siberia, Russia, cap. of Cased a protectorship over the state, Transhalkalia prov. on R. Chita, near and has maintained a small force its junction with R. Ingoda. It was founded in 1851, and is on the Transfounded in 1851, and is on the Transfounded in 1851, and is on the Transforder and the climate cold; the chief crops are kntsk. C. is on the routes from Barwheat, barley, moize, and rice. C. with a pop. of ahout 2500.

E. by Tipperah, on the S. by Arakan, the 18th century has restored it to and on the W. by the Bay of Bengal. wholesomeness. The country is very hilly, with many Chivairy, or the system of knight-deep ravines. The hills are densely hood, is closely hound up with the covered with creeper jungles and fendal system of Norman times. It with thick forests of trees. There is has its roots, however, right hack in rivers Pheni, Karnaphuli, Sanger, and Matamuri. Many different kinds of trihes inhabit the hills, hut the religion observed is chiefly Buddhism.

species of Meliaceæ, also known as red wood, bastard cedar, and white cedar. It is largely used in cahinet-

making.

Chittore, a tn. of Rajputana, India, situated in the native state of Udaipur: Chitorgarh is the fort. Ruined palaces and temples are in the neigh-

bourhood. Pop. 7000. Chitty, Edward (1804-63), hecame a member of Lincoln's Inn in 1829, and wrote, with Deacon, reports of the judicial decisions in cases of bank-General ruptcy, Commercial and

Lawyer, an Equity Index, etc. Chitty, Joseph (1776-1841), an emineut special pleader and writer of the following and other hooks on law: Treatise on the Law of Nations, Practice in the Courts of King's Bench. His three hrothers, Thomas, Joseph, and Thompson, were also well-known lawyers and writers.

well-known lawyers and writers.
Chitty, Sir Joseph William (182999), son of Thomas C., was for sixteen
years a very popular judge. He became master of the rolls in 1881, and was promoted to the Court of Appeal in 1897; he wrote legal text-hooks.

Chiusa, or La Chiusa (Lat. clausa, shut in): 1. Com. and tn. of Piedmont, Italy, 8 m. from Cuneo, on the Ellero. Also a defile of N. Italy. Pop. ahout 6000. 2. Com. of Sicily (Chiusa 7000.

sun-dried black earthenware vases, questions relating to armorial bear-

town is actually a group of villages ornaments, etc., now in the musenms with a non, of about 2500.

of Florence and C. Dante describes Chittagong, a maritime dist. in the pestilential pool the town was Lower Bengal, India, bounded on the in the middle ages, but draining in

elephant hunting in the forests. C. Germanic times, as Tacitus shows comprises an area of 6812 sq. m., and in his account of the manners and is divided into four valleys by the enstoms of this race. But C. hecame further developed in the 11th century, and the order of knighthood involved many duties and responsibilities. The king himself had to train for knight-hood when he had to serve first as religion ones to the East India Company in 1760. The port of C is situated some miles distant from the mouth of the Karnaphuli, and exports rice, tea, and jute.

Chittagong Wood, the product of chittagong Wood, the product of chittagong which is an Indian in the company chapel aisie where he gave gloomy chapel aisie where he gave himself up to solemn meditation before assuming his new duties and privileges. C. was eminently social in its relations to feudalism, and assumed a deep spiritual significance in its relations to the Crusade movement where the knight had to perform military service for the cause of Christianity against the Infidel in Palestine. The favourite sport of C. was the tournament or joust in which the knight sought to win his lady's favour. This tournament would occupy some two or three days. There would he a trial of combat hetween two knights, often with lances, and the victor besides winning the armour and horses of the van-quished, would he permitted to name some lady who should preside over the remaining sports, and who was called the Queen of Love and Beauty. The idea of a love both spiritual and ehivalrous became associated with the word C. in the Middle Ages. Here the love of a lady implied a deep and reverent attachment to the whole of womanhood; at the same time one woman could be the particular object of the knight's thoughts, when the relationship was purely platonic. C. under these conditions gave rise to a vast library of literature, in which all Sclafani), 30 m. from Palermo. Pop. kinds of romances, adventures, and poems (chiefly sonnets) were written.

7000.
Chiusi, in Italy, an important tn. in the prov. of Sicna, Tuscany. It is the ancient Clusium, one of the twelve cities of the Etruscan Contention. Chis celebrated chiefly in connection with the discovery of Earl Marshal and Lord High connection with the discovery of tresses are to he seen, as well as grottos or catacomhs, which served as tombs and where were found the sun-dried black earthenware vases, questions relating to armorial bear or catacomic and the second content of the Heralds' College to decide sun-dried black earthenware vases, questions relating to armorial bear

Ings. See Blackstone's Commentaries, grow wild in Madagascar, and the 1765-69; Stephea's Commentaries, order is closely allied to Theacem.

about 1883.

Chivasso, a com., tn., and opiscopal seo of Pledmont, Italy, on river Po, 15 m. from Turin. Fortress of the by the French, 1804. Remalas of their palace are left. There is a fine cathedral, and the sulphur baths of Noted for San Genesio are near. San Genesio are near. lampreys and slik industries; has lampreys and slik industries; has 9900.

Chive, Cive, or Allium Scheenoprasum, a Illiaceous plant related to such well-known plants in culinary uso as the leek, onloa, and garlle. Like them, it grows in Britain, and the leaves are considered to be edible. their chief use being to flavour soups and stews. The Cs. grow from hulbs, the leaves are long and narrow, and the flowers are bright purple or pinky

ln colour.

Chivicoy, a tn. of the Republic, situated 110 n Buenos Ayres, with whie rallway communication. Th There . manufactures of braady and I goods. Pop. 10,500.

Goods. Pop. 19,500.

Chizerots, or Burins, the nt given in France to the debris of one of two large discs, which forms an of those despised races known under ample frill to the sides of the neek the general name of Cagots. The C. and threat and can be unfolded when are found in several of the complete the lizard is angry and folded again the lizard is angry and folded again the lizard is angre and folded again the lizard is angre and country to the complete the lizard is angre and folded again the lizard is an order to the complete the lizard is an order to the lizard is a lizard in the lizard in the lizard is a lizard in the lizard in the lizard is a lizard in the lizard in

Ain. They butchers, lahorious lives apart from the rest of with 1 ir. The the community. Opinioa is divided creature is allied to the iguana aad la as to their origin, but they are hablt is arboreal. The general colour supposed to be of mixed Goth and is yellowish brown variegated with In the middle ages Saracen blood. they were made to reliabilitate to only with the Revolution to the

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Melde, 1866.

Chiænius, a genus of Carabidæ belongs to the Colcoptera. Thero are many speeles dwelling in Europo, Africa, Asla, and N. America; sericeus and C. tomentosus, medlum - sized, purplo or greeny-bronze beetles, are found la the bronze

United States.

Chlamydophorus, or plehyelego, an edentate quadruped of the armadillo famlly, or Dasypodlde. The species. of which only two are in existence, are small animals covered over with four-sided, horny plates which are thin in the front and strong is the hinder regioa. The external cars are very small, and the small eyes are buried in long sliky hair; under the bony plates and over the whole hedy the straw-coloured hair also prevails. The limbs are short and there are five digits on the fore-limbs. C. truncatus, a native of Mendoza, is the more

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curlous tho feat ir. The

black.

allowed ordinary civil rig.
Michel, Histoire des Races.
Chiadni, Ernest Florens Friedrich Chiadni, Ernest Florens Friedrich chiecks, nipples, and the middle of the founder of the science of acoustics. abdonen in connection with certain lie was born at Wittenberg, became coaditions of the uterus; they are doctor of laws and professor of jurismore marked during pregnancy and corrections. prudence at Lelpzig, but after some sometimes during pregaming flut sometimes during menstruation. Tuberculous patients sometimes ox-self up to the study of natural science, hibbt brown patches on the forehead rs 18.

mitigate nt of the

Joseph, patriot.

He took part in the first Polisb Chiemacee, a small natural order insurrection, then served under of dicotyledonous plants, consists of Napoleon in the Grande Armée, about two dozen handsome trees or After the taking of Paris in 1814 he shrubs of no known use. They all led back to Polaad the remnant of

resigned in order to re-enter the army and fight as a simple soldier. He was

wounded at Grochow. Chlora, a genus of Gentianaceæ, contains only three species, and of these C. perfoliata, the yellow-wort, is a native of Britain. It grows wild on chalky hills and hanks of England and Ireland, but does not occur in Scotland. It possesses a bitter principle which renders its action on the system tonic. The other two species are to be found in various parts of Europe and in N. Africa.

odour. It is closely Combined with

hydrate (q.r.), whi forms chloroform and a formate. It powder is then carefully run into a was discovered in 1831 by Liebig. It measured quantity of the arsenious is used as a drug to produce sleep, acid, and by the aid of an indicator when from 15 to 30 grains is sufficient. a paper moistened with potassium to check excitement and convulsions, etc. Since it tends to reduce the heart's action and lower the temperature of the hody its use is fraught early a convolution of the hody its use is fraught early a convolution of the formula: H.AsO. + CaCl.

the Polish troops and was made (KClO₂). The chlorates are usually general of division by the Emperor formed indirectly by passing chlorine Alexander. After the second Polish into a hot solution of the hydroxide insurrection (1830) C. became, though of the metal, and then crystallising most unwillingly, dictator. He soon out the chlorate. Chlorides are formed at the same time, but they are much more soluble and remain in solution. Since chlorates contain a large amount of oxygen, they are used as oxidising agents, potassium chlorate being used in the manufacture of matches, and in pyrotechny, especially where coloured effects are required; it is also used in tabloid form for the alleviation and cure of sore throat.
Chloride of Lime, see BLEACHING

POWDER, BLEACHING.

Chlorimetry, the term applied to the estimation of the proportion of Chloral (trichloraldehyde, CCl.CHO), available chlorine in bleaching powder formed by the action of chlorine gas (a.t.). It varies from 20 to 43 per cent. The process is one of volumetric colourless liquid with a penetrating analysis. It is usual to make a definite available chlorine in bleaching powder of arsenious acid or some

ubstance which The solution of bleaching

with danger.

Chloral Hydrate, commonly hut the formula: H:AsO. + CaOCI. erroneously called chloral, is chloral combined with water, and is a white crystalline substance, with a pungent; smell and a bitter taste. C. H. treated with caustic potash gives pure chloroform. It has anosthetic properties, to be an element, and gave it its present have because of its creenish. form. It has anosthetic properties, to be an element, and gave it its and is a drug.

Chloranthacea, a small natural present name, because of its greenish-dictoryledonous plants, consists of dictoryledonous plants, consists of berbs, shruhs, and frees allied to the peppers, and having an aromatic (common salt). As such it occurs in fragrant odour. The hermaphrodite all natural waters; in beds as rock or unisexual flowers are small, with a rudimentary or sepaloid perianth, one to three united stamens, an inferior gen, as hydrochloric acid, it is found over consisting of a single carpel, in volcanic gases and in the gastric ovary consisting of a single carpel, in volcanic gases and in the gastric ovary consisting of a single capet, in total gase and a few seeds with oily endosperm juice. C. can be obtained in various and no perisperm.

ways: (1) by heating gently manand no perisperm.

Chlorate, see Chioric Acid.
Chloric Acid (ClO₂) is obtained by Ganese dioxide and hydrochloric acid, water, manganous chloride, and C. decomposing barium chlorate with the exact equivalent of dilute sulphuric acid. It is a clear, unstable liquid, and the strongest acid contains 80 per cent. of water. It has powerful oxidising properties, and if formation of sodium sulphate, mary wood or paper he dropped in it, the nesium sulphate, water, and C. A oxidation is so rapid that they will comparison of these two methods char, and even take fire. It further shows that whereas the second probas strong blesching powers. It is a monobasic acid, and forms stable salts called chlorates. The most important of these is polassium chlorate of manganous chloride; (3) many

highly oxidised compounds, together, be separated from the insoluble rewith hydrochloric acid, give us sides. Then by suitable means the C., and among these substances may bo named potassium bichromate

and potassium chloratc.

Manufacturing processes.—1. Weldon's process is really a process by which the manganous chloride mentioned above can be turned again into manganese dioxide, and re-used to act upon further supplies of hydrochloric acid, giving further quantities of C. 2. Deacon's process depends upon catalysis (q.v.); air, or oxygen and hydrochloric acid, are passed over pumice impregnated with enprous chloride (a salt of copper), which has been heated to a dull-red heat. water is formed and C. evolved.

Properties.—It is a greenish-yellow gas, which has a suffocating smell. If inhaled in the pure state it would canse death. It acts very rapidly on the mucous membranes even when largely diluted in the air. Very dilute in the air, however, it imparts a pleasant odour to a room. It is 2'4 times as heavy as air, but when heated its density is considerahiy less than it should be. So while at hower temperatures its molecular formula is the state of th at lower temperatures its molecular formula is Cl₁, i.e. has two atoms in the molecule, at higher temperatures it must dissociate into single atoms. It is fairly soluble in water, although it may be collected. over warm water, or over brine. It has such powerful chemical affinities that it will onter into combination with a large number of elements at tho ordinary tomperaturo: in many cases so violent is the combination that the other body takes fire, e.g. phosphorus, arsenie, antimony. It is remarkable to notice that if the C. he dry it will not unite with these substances. It has a strong affinity for hydrogen. If the two gases bo mixed and heated, or even exposed to sunlight, they will unite with an explosion to form hydrochloric acid gas. C. possesses by virtue of cydrogen, for hydrogen, for hydrogen for hydr

hydrogen in oxygen, and on colouring

matter, preaching it. It is this bleaching power which makes it valuable commercially, and for this purpose It is combined with lime to form bleaching powder (q.v.). C. gas can bleaching powder (q.v.). C. gas can be liquefied by lowering its tempera-turo to -34°C., when it has a golden colour. At -102° it freezes into a vellow erystallino mass. As a liquid it is packed in lead-lined iron bottles and exported to be used in the oxtraction of gold by the chlorization process. Liquid C. enters into comforms a soluble chlorido which can fully.

gold can be obtained. C. is one of the halogen group of elements, which are fluorine, chlorine, bromine, and iodine, all of which possess similar properties. See Hydrochloric Acid, Fluorine, Bromine, Iodine, Chlorite, a mineral of a green colour and composed of silicate of

alumina, Iron, magnesia, and a certain amount of water. It is soft, and when crystallised in small green hexagonal crystals is scaly in texture. It forms the principal part of chlorite schist in the region of the metamorphie rocks, and is also an alteration product of hornblende and other minerals in many crystalline rocks. There are many varieties, and for convenience these may be divided into orthochlorites, which are crystalline, and leptochlorites, which are

Chlorite Schist, a variety of schist chloritic material such as ellnochlore, together with quartz, mica, tale,

felspar, and other bodies.
Chloritic Marl, the name given to what is really glauconite marl. It is a chalky marl of a white or yellow colour and situated at the hase of the chaik. The name 'chloritle' was given owing to the presence of grains of glauconite scattered through it which was wrongly supposed to be chlorite. It also contains phosphatic nodules. The C. M., together with the two heds abovo it, namely, the chalk marl and the groy chalk, form the division called the Lower Chalk of the Unper Cretacons Pariod. The of the Upper Cretaecous Period. The principal fossils are varietles of Ammonites or Schleenbachia. Beds vary In depth up to 15 ft.

Chlorocinnose (C₁₄H₄Cl₄O₂), a compound produced by the action of chloring upon oil of cinnamon. When pure it exists as brilliant crystals. It volatilises which are colourless.

Cyanurie OL stained when anhydrous hydroeyanie acid and chlorine are together exposed to the action of snullght. It is erystalline, forming needles, and has a disagreeable smell. Heated with water it is decomposed, and gives eyanuric and hydrochloric aclds.

Chiorodyne, a popular patent medicine, first compounded by Dr. Collis Browne. Owing to its dangerous nature and variability of composition, the latter was fixed by the British pharmacopæia of 1885 as chloroform, morphine, hydrochloride, prussie acid, traction of gold by the chlorination ether, and, in addition, peppermint process. Liquid C. enters into combination with the gold in the ore and coughs, but must be used care-

III

(CHCl.), a volatile liquid widely used as an anæsthetic. It has a pleasant odour, hoils at 61°, has a melting point of 62°, and a specific gravity of 1.5 at 15°. It is not inflammable at ordinary temperatures, hnt hurns with a green-edged flame when heated. It is formed when methane, methyl chloride, or methylene dichloride is chloride, or methylene dichloride is treated with chlorine in sunlight, hat is commonly prepared by distilling alcohol or acetone with hleaching-powder, or by warming chloral or chloral hydrate with a solution of sodium hydroxide. C. quickly decomposes in air, especially in the presence of sunlight, carbonylchloride, and hydroxhloric acid being presented. and hydrochloric acid heing pro-duced. As carbonyl chloride is a dangerous impurity when the C. is used for anæsthetic purposes, it is customary to keep the liquid in the dark, and the addition of a small percentage of alcohol serves to effect the decomposition of any carhonyl chloride which may he formed. A good test of the purity of C. is provided by the addition of silver nitrate, when no precipitate should form; it also should not darken when agitated with strong sulphuric acid. C. was introduced as an anæsthetic hy Sir James Simpson in 1847, and it quickly superseded ether for long It is administered by operations. It is administered by means of a loose-fitting mask which allows admixture of air, and the strength of the vapour is gradually increased. The effect of the inhalation is to produce first a state of dis-ordered consciousness, which leads to complete unconsciousness. The reflexes persist for some time, and there energetic movements of les. In the next stage the are muscles. relax, and many of the reflexes disappear, though the vital centres in the medulla are still seusitive, and the heart muscle active; this is the stage suitable for surgical operation. Later, the vital centres in the medulla may become paralysed. in which case respiration stops and life is endangered. C. under skilled management is a safe anæsthetic, the mortality heing about 1 in 2500, and the after effects in favourable cases rarely include painful vomiting. is also administered internally as a

chlorine and nitric oxide. It is easily the phyllites, minera liquefied at about 5° C. and atmo-in character between spheric pressure, and is readily de-and the mica-schists.

Chloroform, or Trichloromethane; composed in the presence of water and hydrates of sodium, potassium, or ammonium.

Chloropal, a massive mineral resembling opal. It is green in colour, and consists of a hydrous silicate of

Chlorophyll, the green colouring matter of plants. Its composition is unknown, but magnesium appears to he an essential constituent. It is insoluble in water, but dissolves in alcohol, henzenc, and chloroform, and when extracted by the aid of one of these solvents, appears as a green amorphous mass. It is dichromatic, that is to say, when a thin layer is viewed by transmitted light, it appears green; but when the layer is of considerable thickness, it is dark red in colour. This is explained by the fact that whereas both red and green rays are transmitted, the green rays predominate in a thin layer, but rays predominate in a thin layer, hut are absorbed with greater facility than the red if the layer he thick. The development of C. in plants appears to depend on certain conditions of temperature and light, for if parts of a plant are hidden from sunlight, they quickly hecome blanched. The function of C. is to aid in the nourishment of the plant by absorbing earhon dioxide from the atmosphere and producing carhohydrates. phere and producing carhohydrates. The nature of the process is obscure, hnt sunlight is an important factor. and the C. cells appear to possess the power of absorbing radiant energy from the sun's rays, hy means of which the necessary chemical changes are brought about. Viewed micro-scopically, the C. of plants is seen to consist of grannies or corpuscles called chloroplasts, which are emhedded in the protoplasmic substance of certain cells. It is associated with other pigments in the plant economy, and the changing colours of spring and autumn are prohably due to changes in the relative amounts of C. and other pigments. The existence of C. is sometimes taken as the distinguishing characteristic of the plant as compared with the animal, but some plants seem to huild up their tissues without the aid of C., and some animals, such as certain infusoria, hydra, etc., possess C. In some cases this is due to symbiotic algae, but is also administered internally as a this is due to symbiotic algo, but stimulant, anodyne, and as an antidote to stryclinine poisoning. Externally, it is used to dilate the superficial blood-vessels, and as a local anosthetic in cases of toothache. Chloronitrous Gas, or Nitrosyl Chloride (NOCI), an orange-coloured gas obtained by the direct union of chlorine and nitric oxide. It is easily liquefied at about 5° C. and atmospheric pressure, and is readily despited by the mica-schifts.

Chiorosis, or Green Sickness, a form factures, dye-works. Battle against anemia peculiar to the female sex, Tartars, 1241. Pop. about 8000. Choanites, or Petrified Anemone, riod of the attainment of puberty. the name of a fossilised zoophyte of anæmia peculiar to the female sex, and particularly associated with the period of the attainment of puberty. The patient has a peculiar greenisi patior, is afflicted with palpitations, faintness, and gastric disturbances, and suffers from general languor and debility. The cause is a diminution of the proportion of hæmoglobin, or red colouring matter of the hiood, duo to the system badly accommodating itself to the new activities of the genital organs. It is therefore found ehiefly amongst girls of scdentary occupation, pursuing exhausting work under bad hygienic conditions in Iliventilated offices and factorics, without a due proportion of leisure and healthy exercise, and often without suitable neurishment in the way of wholesome food regularly taken. The supply of hamogiobin is furnished by the bone marrow, and under normal healthy conditions the red corpuscles Increase in number to replenish waste cansed by any undue strain upon the system. The frequency of amenorrhœa in cases of chlorosis indicates that the organism resists any further drain of red corpuscies, and the other painful symptoms, such as faintness and dizziness, indicato that the blood is too poor in hemoglobin to earry out its nutritive functions in an efficient manner. Tho treatment should include rest, abundance of suitable food, and general observance of hygienic principies. If possibic, a complete change of surroundings and occupations should be effected. Iron preparations should be assiduously administered and continued for a long period if necessary. The condition is not dangerous in itself, and ceases when the patient has progressed further into womanhood, but the long-continned debility may diminish the resisting power to other diseases, C. often arises such as tuberculosis. from an hereditary tendency, and great care must be taken to avoid relapses, which are very apt to occur.

Chlorovaleric Acid, a chiorine substitution product of valerie acid. When the anilydrous valeric acid is mixed with rcd phosphorus and dry chloring passed into the mixture in the presence of sunlight, an atom of chiorine is substituted for an atom of hydrogen.

Chlumetz, a tn. of Bohemia, situated on the R. Cidlina, 46 m. N.E. by

E. of Prague. Pop. 4000.

Chmielnik: 1. Town of Podolia, Kamencts-Russia. 93 m. from Also written Khmicinia. Podolsk.

found in the chalk. The popular name is given to it on account of its radiating appearance.

Choate, Joseph Hodges (b. 1832), American lawyer and diplomat, born at Salem, Mass. His father, George C., was a doctor of some reputation and brother of Rufus C. (q.v.); he was educated at Harvard, 1852-54; admitted to the New York bar, 1856. He practised with brilliant success, powers of cross-examination making his reputation. In 1871 he became a member of the 'Committee of Seventy' which broke up the corrupt 'Tweed Ring' which ruled New York municipal politics. In 1894 he was president of the New York state constitution convention, and in 1899 he was appointed by President McKinley as ambassador to Great Britain. He was very to Great Britain. He was very popular and assisted greatly in the growth of a good feeling between the two countries; he was succeeded in 1905 by Mr. Whitelaw Reid. In 1907 he was the representative of the United States at the second peace conference at the Hague.

Choate, Rufus (1799-1859), American lawyer and politician, born at Ipswich, Mass.; educated at Harvard, 1820; called to the bar, 1823, and practised at Peabody. He was member of Congress, 1830-40, and of the Senate, 1841-46. He was a man of scholarly attainments and a re-

markably fine speaker.
Chobe, a tributary of the river
Zambesi, South Africa. It was discovered by David Livingstone, 1851.
It forms part of the boundary between

British and German territory.
Cho-Bo, a tn., Tong-king, French
Indo-China, situated on the Song Bo (Black R.) at the point where the river bends N. before it enters the Song Koi (Red R.). It is an important trading centre, and gold is worked in the neighbourhood.

Chocolate, see Cocoa.

Choctaws, Chahtas, or Chacatos, a tribe of N. American Indians of the Muskhogean family, now largely intermarried with white and negro stock. They are citizens of the States, United ates, numbering about Thelr original hunting 18.000. grounds were the southern part of the Mississippi valley, but since 1830 they have been settled in Oklahoma (Indian territory). They sided with the Confederates in the Civil War, and suffered the loss of all their Pop. 11,000. 2. Town of Russlan rights; their slaves were set free and Poland, Klelec government, 18 m. their land taken. They are included from Kielce. Woolien-cloth mann-lamong the more highly civilised heads for them. The C., like all the Muskhogean stock were among the most warlike and fierce of all the

American Indians.

Chodowiecki, Daniel Nicolas (1726-1801), Polish painter and engraver. horn at Dantzie; his father heing dead, he supported lumself and his mother by miniature painting. 1756 the Berlin Academy interested Itself in his work through a small en-graving entitled ' Passedex.' He then graving entitled 'Passedex.' He then became well known and appreciated as an illustrator of artistic hooks. He produced the famous set of miniatures, 'The History of the Life of Christ,' but of the 3000 works catalogued in his name only a few are wortby of mention, such as 'Jean Calas and his Family,' 'Hunt the Slipper,' and several engravings illustrating incidents in the Seven Years' War. He has occasionally been known as 'the German Hogarth,' possibly because of his truthful representation of actual life and the skilful arrangement of his drawings. Ho became the director of the Berlin Academy in 1797. His brother Gott-fried (1728-1781), and his son Wilhelm (1765-1803) assisted occasionally

heim (1765-1805) assisted occasional, in his work.
Chodzko, Alexander (1804-91), a Polish poet and Oriental and Slavle scholar. He was appointed Russian consul to Persia, 1829, and made a special study of the language and literature of that country and also of the Oriental languages. In 1842. other Oriental languages. In 1842 he went to Paris, and in 1858 sueeeeded Mickiewicz as professor of Slavonle literature at the Collège de France. He translated many Persian poems, among others fifty-two of the Tearies, lamentations or miracle-plays concerned with the deaths of Hassan and Hoseiu. He published Popular Poetry of Persia, 1842; Fairy Tales of the Slav Peasants and Herdsmen, trans. into English, 1895; a Persian grammar, and many other works.

Cheeropotamus, a fossil genus of cheropotamus, a rossil genus of artiodactylous mammals, belongs to the family Suidæ, and is a near ally of the wild hoars. This genus of hogs was established by Cuvier, and the species have been found in the Upper

Eocene.

Chœropus castanotis. the footed bandicoot, an Australian marsupial of the family Peramelide. It is an omnivorous, burrowing animal with long cars and tail, and the two well-developed digits on its fore-limbs give them a plg-like

appearance. Choga, or Kioga, one of the chain of lakes in Uganda, E. Africa, form-

trihes of N. America. Their eustom ing a kind of extensive hackwater in of compressing the heads of male the head-waters of the Nile. It is infants earned the name of 'flat- marshy and shallow, 20 ft. being its marshy and shallow, 20 ft. being its average depth; length 85 m.; hreadth 13 m. It receives two rivers. Mpologoma and Seziwa, in addition to the White Nile which flows through it.

Choir, formerly spelled quire, as It is pronounced (from O.F. cuer, mod. chœur; Lat. chorus), the name of the trained or organised hody singers who take part and lead in the musical portions of a church service, or perform portions of the service alone, where the congregation do not join, as in the singing of anthems. The term is also applied to a body of male and female singers who perform the choral portions of a musical comthe choral portions of a musical composition. In the Anglican Church, the C. usually consists of male voices only, hoys taking the treble or soprano parts, and hoys or one or two rare male voices, the alto or contraits parts, and men the tenor and bass. They are usually surpliced in the contraints of the contraints. In eathedrals they are divided into two portions, cantoris, i.e. on the precentor's or N. side of the chancel and decani, on the dean's or S. slde, The men form a special hody attached to the cathedral and are termed

to the cathedral and are termed vicars-choral or lay-clerks.
Choiseul, Etienne Françols, Due de (1719-85), a French statesman, eldest son of Françols Joseph de C., Marquis de Stalnville (1700-70), horn in Lorralne on June 28. Ho entered the army and fought in the war of the Austrian Succession. He became licutenant-general after seeing service in Italy and Bohemia, and ln 1750 he married Louise Honorine, the wealthy daughter of Louis François Crozat, Marquis du Châtel. In 1753 he was amhassador to Rome, and in 1757 was transferred to Vienna through the assistance of Madame de Pompadour, whose friendship he had secured hy a private service. His skill and

Marine, and again Minister of Foreign Marine, and again Minlster of Foreign Affairs in 1766. Having failed in lis Austrian policy he strove to retrieve the situation hy an alliance with Spain, known as the 'Family Compact,' but it was too late to save Canada or the French possessions lu India from Great Britain, and be turned his energies to fresh coloules in the Antillies and San Domingo. In 1768 he annexed Corsica with the page of its future use in the calonies. hope of its future use in the colonisation of Africa. At this period he dovoted much time to strengthening the French army and the navy; among his many reforms in the army

was the suppression of 'the farming as in strangling, hanging, or garotting, of the companies,' and the substituthe heart and lungs are paralysed, tion of voluntary enlistment as a breathing ceases, and death occurs in tion of voluntary collistment as a contract with the state. His own ruin was caused by his assisting Madame do Pompadour to oxpei the Jesuits from France; at her death the Chancellor Maupéou, aided by Madame du Barry, persuaded Louis XV. to Chanteloup. In 1774, Louis XVI. recalled lim, but did not restore him to favour. C. was a man of great ability, but without perseverance. He has been accused of oxciting the war between Russia and Turkey war between Russia and Turkey (1768) from motivos of revengo. He died in Paris on May 8, leaving huge debts, which his widow paid for him. debts, which his widow paid for him. See Horace Walpolo, Memoirs of the Reign of George III., ed. by G. T. R. Barker (London, 1894); Mémoires du Duc de Choiseul, ed. F. Calmettes, 1904; Edinburgh Review, July 1908. Choisy-le-Roi, a tn., France, in the dept. of Seine, situated on the l. b. of the Seine, 7 m. S. of Paris. Its manufactures are soap, ohemicals, class morrocco leath.

giass, moroceo leathe

and porcelain goods. is buried Rougot do poser of the 'Marseillaise.'

Choke-cherry, a name given sovoral species of rosaceous plants in

cation occur through deficient oxidation of the blood.

Choking, suffocation by obstruction or compression of the windpipe. Any object indrawn into the wind-Any object indrawn into the wind-pipo whon swallowing food is usually the eause of C.; such objects, fish-bono, piece of bread, otc., become im-bono, piece of bread, otc., become im-pacted in the glottis, at the top of the yindpipe, blocking the passage. Chil-windpipe, blocking the passage. Chil-Jono, piece of bread, otc., become impacted in the glottis, at the top of the windpipe, blocking the passage. Children, also, often get buttons, small coins, etc., ledged in the same place. The untural response of nature is to cause a st of rights countries which cause a fit of violent eoughing which

breathing ceases, and death occurs in a few seconds. It should be noticed

a lew seconds. It should be noticed that in execution by hanging, C. does not occur, death being produced by dislocation of the neck vertebra. Chola, the name of an anet. div. and dynasty of the Tamil country, India, between the Cauvery R. and the S. Penner, Madras. The whole courtbern peninsula of India was and southern peninsula of India was once ruled by the C. dynasty. Its history began in A.D. 860, but gradually deelined, and was extinguished in the

11th century.

Cholera, a name given to a number of diseases characterised by the discharge of a watery fluid from the bowol. Such a disease, under the name χολέρα, is alluded to by Hippoerates, Galen, and other ancient writers on medicine, who probably referred to what is now known as cholcra nostras or summer C. Asiatio more mallgnant disease, C., has its home in India, par-ticularly in the lowlands of Bengal, confined to eastern countries

19th century. In 1817 an of C. spread from India to Japan in one direction and in the other reached Astrakhan in 1823. sovoral species of rosaceous plants in the genus Prunus, which are all natives of N. America and have astringont fruit. P. virginiana, the common C., is shrubby in habit and bears its small drupes in raceomes. Choke Damp, the miners' term for carbon dioxide. Under ordinary circumstances it may be found in recumstances it may be found in recumstances it may be found in recumstances it may be found in required by enigrants to Canada in the sumstances it may be found in recumstances it may be found in recumstances it may be found in required by enigrants to Canada in the sum year, and raged with varying virulence until 1838. The next great epidemic reached Europe in 1847 and the reached Europe in 1847 and carbon of the carbon of too arbon of the carbon of the carbo Another epidemie started iu India in

the disease lu Europe, in Arabia, s well as in Asiatic C.

spirillum, which he called the comma bacillus ou account of its shape, and which he asserted was the cause of the disease. It is a very motile organism, possessing a single romoves the obstruction. Failing this, long flagellum and appears only in where eases threaton to prove latal the intestinal tract. Cultures of this by asphyxiation, tracheotomy must microbe show it to be a somewhat be performed. In cases of external weakly organism, unable to live at a compression of the windplpe, such temperature above 60° C. or in the

Cholera presence of any acid, being at once mild perspiration. Opium should he killed by drying, and readily over administered in small hut frequent grown by other bacteria. When these doses, and if the diarrhea hecomes facts were established, scientists worse, doses of calomel ('3 to '5 grs.) outbreaks of disease, and many attempts were made to account for its virulent nature under certain conditions. The outcome of the investigations seems to credit the microbe with two or more stages of development. Like many other parasites, when it emerges from the human body, it has to develop under certain other conditions of temperature, moisture, and food, before it regains its virulence. This accounts for the fact that direct contact with a C. patient, or even the swallowing of ejected germs is not highly dangerous, though the exposure of the smallest quantity of the dejects of a patient may subsequently lead to a serious extension of the epidemic. The disease may be both air- and water-borne. In Hamburg the drinking of unfiltered river water was undonbtedly the cause of the outbreak of 1892, as in Altona, where the water was filtered, the population escaped except for cases imported from Hamburg. The symptoms are usu-ally classified in three stages. There ally classified in three stages. is first of all a preliminary diarrhea which may not occasion alarm; the characteristic C. attack follows, incharacteristic C. attack follows, in-cluding vomiting and profuse liquid evacuations. These are very frequent, and soon become of the colour and consistency of rice-water or thin gruel. Owing to the great loss of water, other secretions are lessened, the urine becomes totally suppressed, the skin shrinks and assumes a grey tinge, the calves and other muscles are cramped, and the patient suffers from an unquenchable thirst. The third stage may be asphyxia or re-The In the asphyxial stage the action. skin becomes dark grey and the circulation of the blood becomes more and more sluggish, until the cutting of a vein fails to produce any ontflow of blood. If the patient survives, he proceeds to the stage of reaction, when cyanosis vanishes, the evacuations resume their yellow colour, the urinary secretion returns, and the circulation improves. There is always danger of a relapse, and the occurrence of the so-called C. typhoid may lead to death. The average rate of mortality in an epidemic is about 50 per cent. Curative treatment should commence with the prelimi-nary diarrhea. When C. is threatened, all cases of diarrhoea should be also called the limping iambus, and suspected. The patient should take was used by Greek and Roman poets to bed and endeavour to produce a to give a satiric or Indicrous effect.

found it difficult to believe that the should he taken every one or two comma bacillus could be responsible hours until green stools appear, when for such widespread and obstinate the opinm treatment should be resnmed. If the real C. attack follows, the success of any treatment is doubtful. A little hrandy should be given, and a mustard plaster applied to the ahdomen. Hot baths are sometimes advocated to stimulate the peripheral advocated to stimulate the peripheral circulation, hit pronounced though transitory relief can he afforded by injecting fluid into the veins. Preventive measures are of the ntmost importance when C. is threatened. There should be the ntmost cleanliness in everything concerning the water supply and the disposal of sewer. Travellers should be been under age. Travellers should be kept under inspection, and public authorities should thoroughly disinfect all dustbins, water-closets, ctc., whether owned privately or not. The in-dividual should practise personal cleanliness, boil all water and milk before drinking, avoid uncooked fruit and excess in alcoholic liquors, hnt should endeavour to make as little change in his habitual diet as possible. It should be remembered that any gastric disturbance acts as a predisposing factor, and even undue alarm may therefore indirectly cause an attack. Vigorous people of middle age are seldom attacked, and the number of cases seldom exceeds 2 per cent. of the population.

Cholera nostras, European C., or summer C., is a disease which occurs in scattered cases and in its symptoms provides a mild parallel to Asiatic C. It generally occurs in summer, and should be treated by frequent

doses of tincture of opium.

Cholesterin, an alcohol occurring as a constituent of bile, gall-stones, eggyolk, nervous tissnes, and blood. It is a white crystalline substance, soapy to the tonch, insoluble in water, but solnble in hot alcohol or chloroform. It is said to nentralise snake-poison.

Cholet, a tn., France, in the dept. Maine-et-Loire, situated on the r. b. of the Maine, 30 m. S.W. of Angers. Cotton and woollen goods, flaunels, handkerchicis, etc., are manufactured, and there are bleaching and dveworks, and tanyards. A dark granite is obtained in the neighbourhood. C. possesses large cattle markets. Pop. 19,750.

Choliambic, the name of an iamble trimeter, which had a spondee or trochee instead of the normal iamb in the sixth and last foot. It was

Choion (Choisn), a tn. of French are no temples left, or inscriptions on Cochin China, nbout 4 m. from anything, but monoliths 6 or 7 ft. Saigon. Founded in 1778 by Chinese high, stone figures of animals, idols. emigrants from Bien-hoa and Mytho. Rice and export trade. Pop. about pots have

42,000 (mostly Chinese).

42,000 (mostly Chinese).
Choinia, a city of Mexico, situated
12 m. W. of La Puebln, and about
60 m. S.S.E. of Mexico. It was
formerly the capital of an independent district, and the scat of the
old Mexican religion. At that time,
under the name of Chunultecol, it
possessed over 400 temples. The
rulns of one of these are existing, and upon one of its highest platforms a church has been built, cruciform in shape, and 90 ft. in length.

Choluteea, a dept. and tn. of S. Honduras, with Gulf of Fonseca on S., from Tegucigalpa, and has large public bulldings. Mining is carried on. Pop. 45,000; town, about 10,000.

Chomatodus, the name given hy track for the group it was a superior of the group it was replaced hy the term the late. I use fishes are typical of the family Petalodontide, and are found in the mountain lime. stone of Great Britain, Europe, and N. America.

Chondracanthus, a curlous genus of parasitio crustacean in which the largo fomales attach themselves to the gills of living fish, and the small males attach themselves to their

feminino counterparts.

Chondrites, a genus of fossil sca-wceds of fueoid form. The species range from the Cambrian to the Tertiary.

Chondropterygli and Cartilaginei, old names for the large sub-class of fishes now called Elasmobranchii. They are noted for the cartilaginous substance of which the bones are formed, and are represented by

sharks and rays. Chonos Archipslago, a group of n thousand rocks, islands, and reets off the W. coast of Chile between lat. 44° and 46° S. They are mostly uninhabited, and are soparated from the

mainland by the Moralded Channel.
Chontais (Loneas), a widespread
race belonging to Central America.
Their domain was formerly in the
eastern parts of Honduras and Mearagua, and a few straggling settle-ments in Guatemaia, Chiapas (S. A good Mexico), and Costa Rica. number of these people are still to be seen in parts of Nioaragua, and surrounding districts of Honduras. The Aztees look down upon the C. and cali them nilens or barbarians, but as a matter of fact they are more or less civilised, as proved by ruins and objects found in the graves in districts where they once dweit. There

high, stone figures of animals, idols, gold ornaments, and earthchware been found in large quantities.

Chopin (Old Fr. chopine, a liquid measure), an old English liquid measure equal to half a pint; an old Scottish measure equal to nearly a quart; a French measure, before the introduction of the metric system,

equivalent approximately to a 'demilitre. Chopin, Frédéric François (1809-49), a Polish musical composer and

pianist. He was born near Warsaw, and began his musical training at the ago of nine under Ziwny, a pupil of Sobastian Bach. Prince Radziwill sent him to Warsaw College, where his genius began to assert itself. Later on he became a pupil at the Warsaw Conservatory, and there theroughly mastered the science of music. His fellow students introduced him into the highest society, and he soon developed the romantic spirit of the Polish race. He ombraced the imaginativo melancholy of the peasant as well as the grace and culture of the Polish aristocrat, and his character shines out through all his composi-Ho went and settled in Paris and lived and worked among the elite, and it was here he met with George Sand, and that extraordinary friendship arose. C. carly in life developed consumption, which must have made all labour very arduous. Ho is buried in Pè--Beill

owin

genlus; they are extremely beautiful and full of poetic imagery. He mostly employed dance forms round which to weave his melodics. With regard to his technique on the piane he was among the finest executants, and he introduced the free use of the thumb on the black keys which revolu-tionised all piano playing. See Cuth-

bert Hadden, Chopin. Chopins (Sp. chapin), a very high elog or patten, sometimes half a yard high, of Oriental origin, introduced into England from Venice in the

reign of Elizabeth.

Chopra, or Chopda, a tu. in Khandesh dist., Bombay, India, 105 m. from Indore. Exports linseed and

cotton. Pop. 18,000.
Chop-sticks, the implements used by the Chineso and Japanese to pick up their food with—a substitute for our knife and fork. They are made of either ivory or wood, and held between the fingers and thumb of the right hund in much the same way as sugar-tongs.

Choragus, in ancient Greece, the

the expense of the chorus furnished by each tribe for public festivals, and also to the musician who directed the The most successful tribal chorus. C. in competitions was rewarded with an engraved tripod, which be conscerated and set upou a monu-The choragic monuments of Thrasyllus and Lysicrates still exist

at Athens. Chorale, the name applied to a particular form of musical composition for voices which was introduced by Luther into the services of the German Reformed Church. The words were often in the vernaeular and in the form of hymns. The music was not always original, being sometimes secular and sometimes adapted from hymn tunes of the Roman Chureb. Luther and his friends, Walther and Senfl, published the first important set of chorales at Wittenberg in 1524. Choral Service, the services in the not said.

Chord, in music, the simultaneous sounding of notes of different pitch.

The common C. consists of a note with its third and fifth. In geometry, a C. is a straight line ioning two points on the circumference or curve of a circle, ellipse, parabola, etc. In a certifice, ellipse, parabola, etc. In a diameter, and the length diminishes as it recedes from the centre. The perpendicular and a metallic tonic, such as zinc, from the centre. The perpendicular iron, or arsenic, should be given, the drawn from the centre bisects the C. last being perhaps the best, and adchordata. the control of the centre bisects the C. last being perhaps the best, and adchordata. The attack generally lasts

ing of all anim. period of their functions as a notochord. members of t rod is present stages of their l

members it is the adult by the spinal column. Other universal features are the presence of gill-slits and a central nervous system. Zoologists aro by no means agreed upon the creatures which may be included in the C., and though the Amphioxus and all vertebrates have an assured position, opinions vary as to the claims of such lower forms as the Tunicata and Enteropneusta. Chorea, or St. Vitus' Dance, a nerve

disorder which attacks both children and adults, but the great majority of cases occur in the former between about eight and fifteen years of age. That occurring in childhood is called common C., and is met with much more frequently among girls than among boys. Its presence is shown by over the muscles of the affected part, it is now generally climinated from but unaccompanied either by pain or the vocabulary of scientists.

name given to the citizens who bore rigidity. The muscles of the face are rigidity. The muscles of the face are most frequently affected, then the extremities of one side of the body, and after them come those of the body, and in very severe cases all at once. When the limbs are affected the movement of the body and the walk of the affected person becomes unsteady or jerky, while if the whole body is affected the patient is unable to walk without seasoned in mains. to walk without spasmodic inmpings from the ground, and in many cases must be confined to a padded room. Thus it is evident that the discase, if not taken in time, may develop into one of a more serious nature, hence a doctor should be consulted in the first The disease has probably a connection with rheumatism, since it occurs generally in children with a rheumatic tendency, and sometimes is accompanied by acute rheumatism, or there is even danger of rheumatic fever. Also there are symptoms of heart disease, which may be brought English and Roman Churches where on in its lower stages. A child which the psalms, responses, etc., are sung, suffers from C. has probably been

or fright, and est; or there hen a course

The attack generally lasts months, but as it is liable the child should be given open-air exercise, gymnas-ood feeding.

rapby, the art of dancing i.e. a system of signs novements in dancing is

sbown, the same as notes in music represent certain sounds. champs, the dancing master of Louis XIV., developed this art. Saint-Leon has written one of the best works on this subject entitled Stenochoregraphie. 1852.

Choriambus, in classical prosody, a foot consisting of four syllables, of which the first and last are long, the second and third short (- - -). takes its name from its supposed composition from the union of a trochec (chorec) and an iambus.

Chorion, a term which has been used in several confused senses by embryologists in connection with tho early development of mammallan young. It was applied particularly to the union of the falso amnion with nervous twitchings of the bead, face, to the union of the falso amnion with or limbs, due to great want of control the allantois or with the yolk-sac, but

Chorley, a municipal bor, and tn. of Lancashire, England, situated on the R. Chor, 20 m. N.W. of Manchester. The manufacture of cotton yarn and goods is largely carried on, and thore are calico printing, bleaching, and iron works. Coal, iron, lead, and slate are found in the neighbourhood.

Pop. (1911) 30.315. Chorley, Henry Fothergill (1808-72), an English musical critic, born at Blackley Hurst, near Billinge, in Laneashire. In 1833 he was engaged by Dilke to work on the Athenaum, and he very soon was made head musical editor. He held this position until 1866, when he retired. He wrote some novels, but they were all un-successful. He got three plays acted, however. He was decidedly narrow in his views on musical composition, and although well intentioned he was a great opponent to the ultra-modern spirit as declared by Wagner and Berlioz. His best works aro: Music and Manners in France and Germany, 1841; Modern German Music, 1854; and Thirty Years' Musical Recollections, 1862.

Chorlu, or Tchorlu, a tn. and river in Turkey, 60 m. W. by N. of Constanti-nople. Seene of much sangulary fighting between the Turks and Bul-

garians in 1912. Pop. 10,000.
Chorokh, or Zhorokh, a riv. of Transcaucasia. It rises on the side of Kazan Mt., N. of Erzerum. It is about 215 m. long, and drains 10,500 sq. m. of country. It flows into the Black Sea near Batum. Its chief tributary is the Olti-chai.

Chorostkow, a tn. in Galicia, Austria, 30 m. from Tarnopol. Pop.

6500. Chorotegans, one of the cultured races of Central America. Their land extended from Fonsca Bay to the E. side of Lake Nicaragua. At present they have nearly all become swallowed up in the Spanish-American communities of Honduras and Nicaragua, and as a matter of fact they now form the main constituent clement. They acquired a fairly large amount of culture under Aztee and Maya influence, but the early missionaries which came over from Spain had their temples destroyed, their idols broken, and their graves despoiled. On the islands of Lake Nicaragua aro some colossal basaltic monoliths which are supposed to be of Chorotegan origin. They are for the most part in the form of human

figures, but very rudely carved.
Chorrera, a tn. near the Pacific coast of Panama, 15 m. from Panama. Pop. 6200.

Chorum, a tn. in Angora, Asia Minor, 100 m. N.E. of Angora. It is

tween the seaport of Samsun and Kaisarieh. This makes it a place of some commercial standing. manufactures are earthenware and leather. Pop. 12,500.

Chorus, a word which originally in Greek meant a dance (χόρος) accompanied by singing, employed at festivals in honour of the gods, especially of Dionysus, and thus developed into the songs accompanied by rhythmic movement forming the lyric parts of the Greek tragic and older comic drama. It is thus applied to the body of singers in opera, oratorio, cantatas, etc., who sing the music written for large groups of voices in parts for each type of voice, soprano or treble, contralto or alto, tenor, and bass. A C. may be distinguished from a glee which is properly written for single voices to each part. Hence when a portion of a song is to be sung, not by a single singer but by a number of singers, it is styled a C. In the Elizabetban drama, the word is applied to a single character who spoke the cpilogue and prologue.

Chorzow, a vil. in Silesia, Prussia. It has rich eoal mines, and also iron and zine works. Pop. 9000.

Chose in Action, in its general significance, means all rights over property which, in contradistinction to those which can be asserted by taking physical possession of the property. can only be enforced by action. It is, however, a term of many shades of meaning, all of which have been the subject of much legal controversy. In its other but related senses it may mean the property Itself which is the subject of personal rights or the instrument which evidences those rights. In the sense of the property itself the term has been held to comprise, inter alia, shares and stock in companies, insurance policies, patents, debentures, tithes, negotiable instruments, debts of all kinds, annuities, trusts, legacies, reversionary interests. and advowsons. In contradistinction to choses in possession (a thing of which a person has physical posses-sion), Cs. in A. were not transferable at common law, but by the custom of merchants, the rules of equity and statute law, certain Cs. in A. became assignable, and hence it was that prior to the Judicature Act, 1873, Cs. in A. were commonly classified according to the mode of assigning them. Cs. in A. not being assignable at common law, the result was that a person who purported to assign could not maintain an action in his own name against the debtor. But by the Judicature Act, 1873, all Cs. in A. are made assignable by agreement in situated on the road which runs be- writing signed by the assignor, provided written notice is given to the who dehtor or trustce, and the assignment is absolute and not by way of charge. See Goodeve's Modern Law of Personal Property, 1904.

Choshi, a tn. in Japan on the E. coast of Nippon, 72 m. from Tokio. The chief industry is fishing, and fish oil is manufactured. Pop. 36,500.

Chos-Malal, eap. of the Neuquen

Chos-Malal, eap. of the Neuquen ter., Argentina, at the junction of the Neuquen and Lcubu, 465 m. from Bahla Blanco. Altitude 2590 ft. Chosroes I. reigned over Persia 531 to 579 A.D. His name 'C.,' or rather 'Khosrau,' means 'with a good title,' and his wise and bene-ficent rule earned him the appellation of 'Blessed', 'Anushiryan'. of Blessed (Anushirvan'). In 540 he hroko his peace with the Emperor Justinian, invaded Syria and carried off the inhalitants of Antioch to a new city called Khosrau-Antioch. In 562, after successive warfare against the Romans in Lazica (Colchis) and Mesopotamia, he made a peace whereby the Romans agreed to pay subsidies hut kept Lazica, whilst C. agreed not to persecute the whilst C. agreed not to persecute the Christians. Unlting later with the Hephthaiites against the Turks, C. proceeded to conquor Bactria, and in 570 he mado Yemen a Persian dependency. This ruler was therefore a great conqueror, but he was also a great statesman; for he introduced a land basis for taxation, huilt canals in Rahyllonia was talerant towards. in Babylonia, was tolerant towards Christian and other seets though a convinced Zoroastrian, and patronised literature.

Chosroes II. (A.D. 590-628), was far inferior both in statesmanship and strategy to his grandfather, C. I. Prone to luxury, he succeeded finally, hy his haughty bearing and heedless avariee and cruelty, in alienating the affections of all his people and in reducing the mighty Persian empire to a state of miserable and desperate chaos. With the help of the Emperor Maurice he defeated the usurper Bahram Chohin in 591. Three years later he hegan war against the Christians and Rome, ostensially to avonce the murder of his ally, Maurice. His predatory armies overran Syria and Asia Minor, and his general, Shahr-baraz, captured Damascus and Asia Minor, and his general, Shambaraz, captured Damascus and Jerusalem (614). Even Egypt fell a victim to Persian rule. But between 622 and 629 the Emperor Heracilus recovered all the recent conquests and restored the Holy Cross to Jerusalem. C. was assassinated, his light of the control o Jerusalem. C. was assassinated, his eldest son heing proclaimed king in his stead.

Chota Nagpur, see Chutia Nagpur. Chouans, a lower Breton word, meaning a 'screech-owl.' This name meaning a 'screech-owl.' This name tongue. Occasionally the roof of the was given to a company of smugglers, mouth is also black. Its coat should

revolted during the French Revolution and joined the Royalists They were led by a at La Vendéc. man called Jean Cottereau (1767-94). a dealer in contraband salt, whose trado was ruined by the destruction of the inland customs. Under his leadership the C. carried on a guerrilla warfare against the Republicans; his company soon grew into an army which was known as La petite Vendée. Cottereau was killed in an ambuscade, and his place was taken by Georges Cadoudal (1771-1804). The insurrec-tion then spread through Brittany and the W. of France. The devotion of the Bretons and the energetic skill of Cadoudal made this revolt The little menace to the Republic. army had grown to 10,000 men, who regarded the revolt almost as a holy war; they wero finally heaten hy La Hoche at Quiheron (July 20, 1795). Cadoudal was imprisoned but escaped. and though open warfare was now impossible, he continued plotting: he was arrested and executed in Paris, June 1804, with several others. This ended any serious attempt at a fresh revolt. See further VENDÉE.

Chou-chia-kou, a market tn. in Ho-nan, China. It is situated at a point whero many rivers converge (giving access to all the N. part of the province). This makes it a very im-

portant trade centre. Choughs constitute the sub-family Choughs constitute the sub-family or Fregelinæ of the erow family or Corvidæ, and are allied to the magpios and jays; the name is given to them in imitation of their cry. The species are usually black, with red feet, and a long, powerful yellow or red beak; the claws are long and hooked. In diet the C. are frugivorous and insectivorous. F. graculus, the Cornish C., and Pyrrhocorax graculus frequent British sca-coasts; P. Alnivus is to be found in the P. Alpinus is to be found in the

Chouquet, Adolphe Gustave (1819-86), a French musical writer, born at Havre. He composed several light works, but is best known as being a writer on musical history. In 1874 he was the keeper of the collection of musical instruments at the Academy of Music at Paris, and he issued an illustrated catalogue of same in 1875. His cluef work is L'Histoire de la Musique Dramatique en. published in 1873.

punnsned in 1873.
Chow-chow, a Chinesc dog, popular in Great Britain as a pet dog. In Cluina it is killed and lung up for salo in the meat-shops. It has a piquant expression, is an intelligent companion, and a good house dog. Its chief peculiarity is that it has a hlack toneric. Occasionally the roof of the

be all of one colour—black, red, Church for anointing in certain sacra-yellow, blue, or white—but not in ments; in the orthodox church it is patches. White spots on the coat is mixed with spices. Children were a disqualitying point. The hair under the tail and under the thighs is frequentiy of a lighter shade in the same colour. Other points to notice are: Head broad and flat; noso moderate in length, but short tipped; nose and month black; eyes small and dark; ears alort and carried erect and well over the cycs; neck broad and firmly set; legs strong, hony, and perfectiv straight; feet round and cat-like; chest hroad and deep. The C. has a deep ruff round the neck, and a hairy, full tail, curied over the back. It welghs from 46 to 55 ibs.

Chrestomathy (Gk., 'good learning'), a collection of the liest extracts from any author or authors, with notes. The term is especially applied to such a compilation in a foreign ianguage, viz. a Hebrew C. Tho best one of modern times is Chrestomathie du Moyen Age, lly G.

Paris. 1908.

Chrétien (or Crestien) De Troyes, the most famous of French medieval poets. He was horn at Champagne, but unfortunately there are but fow exact details with regard to his life. Thore is also a difference of opinion as to the dates of his poems. At the command of Marie, Countess of Champagne, he wrote Chevalier de la Charetie, and he wrote Checuter de the Charetie, and he wrote Le Conte del Graal and Perceval for Philip, Count of Flanders. This prince was regent for the young King Philip Augustus from 1180-82, and as C. says the story of the Grail was the best tale told augustus from the Caraller we have resent to be consequent. eort roial, we have reason to helleve that it was written during the regency. It is thought that the It is thought that regency. probable time of his literary activity was between the years 1150 and 1182 when ills patron, Count Philip, fell into disgrace at court. There are a few of C.'s poems extant, most of them dealing with Arthurian legends. Thero also exists a poem entitled Guillaume d'Angleterre which is supposed to have heen written by him, but it ls a matter of debate. Professor Foerster claims it as a genuine atticle but Costan Besides. article, hut Gaston Paris does not accept the statement. His poems en-joyed great popularity, and the three favourites were Erec, Yvain, and Perceval. His style of writing is easy and graceful, and he is also analytic and dramatic, but he has no great depth of thought or power of charac-His manuscripts arc the terisation. earliest Arthurian romances that wc possess.

Chrism (Gk. χρίσμα, a substance used halm, used by the Roman Catholic have grown into an influential body.

1 2.

Chrisome, the rohe presented to infants when baptised in the Roman Catholic faith, and is to symbolise innocence. It represents the original 'C.' cloth which used to be placed on the head to prevent the chrism oil being ruhbed off. A 'C.' child is one who dies within a month after baptism, in which case the C. is used

as a shroud.

Christ, a transliteration of the Gk. Χριστός, anointed, from χρίειν, to anoint, usually with the definite article, the anointed one, the Christ, and used in the Septuagint version of the O.T. to translate the Heb. Mashiyah, Messlain, the anointed one, a word which to the Jews of latter times implied the great earthly King wito would restore their kingdom and free them from the subjection in which they were leid (see MESSIAH). While in the O.T. the word is used in the LXX. not always with this significance of a Messianic coming, in the N.T. it always refers to the claim the N.T. it always refers to the claim of Jesus to fulfii the Messianie propeejes, but in a spiritual sense as the bringer to mankind of a spiritual kingdom and of freedom from the subjection not to earthly rulers hut to sin. C. is thus properly a title of Josus, the Lord (Κύρως) Jesus, the Christ (ὁ Χριστός). When He asks his disciple, 'Whom think ye that I am'? Peter answers, 'The Christ.' The high priest asks Him if He were 'the Christ.' In the beginning of the earliest certain Christian document 'the Christ.' In the beginning of the earliest certain Christian document that we possess, the first epistle of St. Paul to the Thessalonians, most prohably not later than A.D. 52, the Church is addressed as in 'tbe Lord Jesus Christ.' It may he noted that 'Christ,' alone or with 'Jesus' or 'Lord Jesus,' is far more frequent in the Epistles and Acts than in the Gospels. From the earliest time it is the apprinting Messanic side of Jesus.' the spiritual Messlanic slde of Jesus' Ino spiritual Messianic side of Jesus mission that is stressed, and it is plain how the name of Hls followers should have heen from the first 'Christians' (Χριστιανοι). The first letters of the name in Greek, XP, formed the monogram of Constantine's labarum, and have always remained a favourite symbol in Christian art. See Jesus Christ and Messiah.

Christ, Disciples of, or Campbellites, a religious sect founded by Alexander Campbell (1788-1866). They do not have any creeds or confessions, they take their religious Ideas direct from in anointing, from xp(ev), to anoint), the N.T., and haptise by total imtho consecrated olive oil mixed with mersion. In the United States they

Christadelphians (Gk. 'brethren of is roofed with one of the most beautl-Christ'), a religious seet in Britain and America. They reject the torin church,' and meet in what they call ecclesia.' They look upon themselves as being 'ealled out' from the seives as being 'ealled out 'from the world and from among people professing Christianity, and they adopt 'the doctrines declared by Jesus.' They have no ministers, and no rulers, and hold their meetings, in the absence of the Spirlt, on a basis of brotherly love. They 'break bread' and have his bread' and have his bread' and have his bread's constant of the spirit of the spiri bread and have biblical discussions. Their ereed is apparently in conditional immortality, as 'the son of God by conception and the son of man by birth.' They also believe the kingdom of God to be a divine political government, and on Christ's second coming this government will be established all over the world, with Jerusalem as a sort of headquarters. This seet was founded by Thomas of London in 1848, and later spread to America.

spread to America.
Christ Church (Lat. Aedis Christi, popularly called 'The House'), a college of Oxford University, England, and the largest collegiate foundation in Oxford. It was commenced by Cardinal Wolsey in 1525, on the site of the priory of St. Frideswide, which Wolsey had suppressed on Pope Clement VII.'s authority for the purpose of founding a college. The church of St. Frideswide became both the eathedral of the diocese of both the eathedral of the diocese of Oxford and the college chapel. college was first called Cardinal College, and on the fall of Wolsey, Henry VIII. suppressed the name and called it Henry VIII.'s College. In 1546 the foundation was established as it." lished as it :

a dean, who dean of the c cathedral staff, and the 'students,' the fellows (senior students), and seliolars. Five of the eanous are university professors, the duties of a college dean are performed by two of the fellows called censors. Wolsey the fellows called eensors. Wolsey began the buildings and in 1665 Dr. began the buildings and in John John Fell completed many of them, though the cloisters Wolsey had dosigned were never built. The great gateway begun by Wolsey was finished by Dr. Fell and designed by Wren; It eontains the great bell ealled Big Tom (St. Thomes of Canranglo is named from a hall " occupied the site, and t Canterbury Quadrangle is ca

ful examples of fan vanilling, interest-ing for its late date, 1640. The hall is the finest in Oxford, and boasts some splendid portraits; among them are Holbein's Henry VIII., Wolsoy, and others of the many distinguished former members of the college. The library contains a very valuable eol-lection of books, also Wolsey's carlection of books, also Wolsey's car-dinal's hat. The eathedral is small and crueiform. There are traces of Saxon work, but in 1160 it was restored and made Norman. Wolsey altered it considerably, and Sir Gilbert Scott restored the east end in the 19th century. The building contains specimens of every English stylo. There is a fine Jacobean pulpit. The nave roof is woodwork, and tho choir is roofed with fan tracery in stone. There are some beautiful windows by Sir E. Burne Jones, some 14th century glass, and a curious Dutch window by Abraham van Ling, 1630. The cathedral contains many interesting tombs, and the shrine of St. Frideswide has been discovered and reconstructed. Between the college and the meadows runs the famous 'Broad Walk' planted and laid out by Dr. John Fell in 1670.

Christehurch, a tn., Hampshire, England. Situated at the junction of the Avon and Stour, on the edge of the New Forest, close to Bournomouth. It is a municipal and parliamentary borough. It possesses a beautiful church, the priory church of the Holy Trinity, a cruciform edifice, without the central tower and having a 'Perpendicular' tower at the W. end. The nave and transepts are mainly Norman. The priory of C. is oned in Saxon documents as

vineham, and in 901 lt was by Edward the Elder. About 1095 it was partially rebuilt and endowed by Ranulph Flambard, Bishop of Durham. It contains the poet Shelley's monument, and many others of interest. The ruins of a Norman eastle, built by Richard do Redvers in Honry I.'s reign, are close to the church. The borough was first summoned to send representatives to parliament in 1307. It now, with

Bournemouth, sends one member to the House of Commons. Pop. 5104. Christehurch, eap. of the provinelal dist. of Canterbury in Now Zealand. It is situated on the Avon and conterbury), which came originally from Osnoy Abbey. The first quadrangle, neeted by railway, 7 m. long, with its the largest in Oxford, is called the port Lyttleton. The town is built 'Tom Quad.' The Peckwater Quadverselve years and has extensive

o seasido ro-Now Brighton. y (Univorsity)

the Canterbury College, built in 1909, Conege, to which is attached an which vanished in Wolsey's foundational engineering school and observatory, tion. The staircaso leading to the hall a mnseum and school of art. There

is also a fine cathedral, besides fine parks and recreation grounds. Hagley Park covers about 400 acres. city is a commercial centre, and its industries are chiefly iron foundries and agricultural implement works. Pop., with suburbs, 80.000.

Christening, see BAPTISM. Christian, a term applied to a follower of Christ. According to Acts xi. 26, 'the disciples were called Christians first in Antioch,' that is about the year 43. The word only occurs in two other places in the Bible (Acts xxvi. 28, and 1 Peter iv. 16). It is probable that it was not used by the disciples themselves, but was a contomptuous nickname given by their enemies (cf. Tacitus, Annal. xv. 44). According to Baur, the name must, by its derivation in ianus, have sprung up first among the Romans, not among the Greeks. The name not among the Greeks. The name could not have originated among the Jews, who called the disciples 'Nazarenes' and 'Galileans,' and would not have given them a name, which meant 'followers of the Anointed.' The early Cs. were sometimes called Chrestiani, by a mistaken derivation of the word from χρηατός, good, instead of χρίαν, to anoint.

Christian, the name of several kings of Denmark and Norway:—

Christian 1. (1448-81), horn in 1426. He was also King of Sweden (1457-71), and was elected Duke of Schleswig · Holstein (1460). founded the university of Copen-

hagen in 1478.

Christian II. (1513-32), born in 1481, King of Denmark, Norway, and Sweden, son of King John of Norway Denmark and Christina Saxony, married Isabella of Burgundy. On his accession the Swedes gundy. On his accession the Swedes refused him as king, and headed hy Sten Sture held out against him for some time, hut were finally defeated at Upsala, 1520. After the heads of the nation had sworn fealty, he gave a banquet and had most of his guests seized and imprisoned. Ahont eighty-two persons were executed or drowned hy his order the following day (the Stockholm massacre). Sweden revolted successfully, while his system of taxation made him hated in Norway and Denmark. Jutland revolted and gave the Danish crown to Duke Frederick of Holstein in 1523. After a long struggle C. was compelled to surrender to King Frederick in 1532, and was kept in solitary confinement for twentyseven years. His passion for his mistress, a Dutch girl of the people named Dyveke, had added greatly to his unpopularity, hut he was possessed of great energy, courage, and patriotism. He died in 1559.

Christian III. (1534-59), horn in 1503. During his reign he witnessed the completion of the Lutheran Reformation.

Christian IV. (1588-1648), born in Frederiksborg, Zcaland, in 1577. In 1611-13 he waged war with Gustavus Adolphus of Sweden, which terminated in the peace of Knäröd. During the Thirty Years' War he suffered defeat in 1626 from Tilly at Lutter, and Jutland was raided by the enemy's troops. He again fought with Sweden from 1643 to 1645, and hy the peace of Brömschro was obliged to yield a great part of his territory around the Sound. C. IV. was, however, a just and broad-minded king, and won great popu-larity among his subjects for his attempts to emancipato the peasantry. He was energetic in promoting com-

He was energetic in promoting commercial enterprise and encouraged science and industry. He founded Christiania, tho present capital of Norway, in 1624.

Christian V. (1670-99), horn 1646, was tho first kidg of the Oldenhurg dynasty. During his reign Denmark acquired the islands of St. Thomas and St. John in the W. Indies.

Christian VI. (1720-46) here chart

Christian VI. (1730-46), horn about 1699.

Christian VII. (1766-1808), born 1699, the son of Frederick V. He was a man of weak intollect, and rulo was exercised by his ministers, Struensec and Bernstorff. His wife, Caroline Matilda, sister of George III. of England, and his son, Frederick, acted as regents from 1784 till his death. Christian VIII, (1839-48), horn 1786.

Christian IX. (1863-1906), horn 1818. He is closely connected by marriage with many of the thrones of Europe. His daughter, Alexandra, married the late King Edward VII. of England; another, Dagmar, married the late Czar Alexander III.; while his second son, George, is King of Greece (1863). In 1864 C. lost Schleswig-Holstein in war with Anctive and Prussia. He has been Austria and Prussia. He hasucceeded by Frederick VIII. He has heen

Christian, Prince, Frederick Christian Charles Augustus (b. Prince of Schleswig-Holstein-Sonder-hurg. A general of the British army, and high steward of Windsor Park, where he has his residence, Cumberland Lodge. In 1866 he married Princess Helena Augusta Victoria (b. 1846), the third daughter of the lato Queen Victoria. Her Royal Highness is renowned for her philanthropic work with regard to hospitals and charitable institutions. eldest son, Prince Christian Victor, was killed during the Boer War, 1900.

Christian, Edward (d. 1823), an

English lawyer. After a hrilliant university career, he entered Grays' Inn worth in his The Religion of Proint 1782, and was appointed Downing testants, 1637. professor of laws, Cambridge, in Christian Endeavour Societies. 1788; professor of general polity and laws of England in the East India College, Hertfordshire, 1790; and chief-justice of the Isle of Ely. He the Laws of England (4 vols.), 1793-5, and wrote numerous works on legal motto is For Christ and the Church. anhiects.

Christian, Sir Hugh Cloberry (1747-98), a British rear-admiral, of a Manx family. He entered the navy ahout 1761, and in the actions of Grenada (1779) and Martinique (1780) commanded the Suffolk. He took part in the hattles of Chesapeake (1781). St. Kitts (1782), and Dominica (1782). In 1795 he hecame a rear-admiral, and mas appointed commander-in-chief in the W. Indies, for which he sailed in 1796, and took part in the conquest of St. Lucia. In 1798 he was appointed commander in-chief in the Cape of Good Hope, where he died in Novem-

her of the same year.

Christian Brothers, Roman Catholic institute, founded at Waterford, co. Kilkenny, Ireland, in 1802, by Edmund Ignatius Rice. Mr. Rice had resided in that city as a merchant since 1780, and his pity had heen excited by the deplorable state of excited by the deplorable state of ignorance and vice in which the poor lived. In 1803 a monastery was hullt for the school by the citizens of Waterford. Mr. Rice received the support of the Bishop of Waterford, and was before long asked to open houses of the institute in many towns of Ireland. The C. B. are now established in England and in some of the British colonies. In 1804 ther were British colonies. In 1820 they were granted a constitution by the Holy See, and confirmed as a religious institute of the Roman Catholie When the Irish national system of education was established (1831), the C. B. for a time accepted the grant hy placing their schools under the board, but they later withdrew from the connection as they could not separate secular from religious teaching. The title has heen erroneously given the to Brothers of the Christian Schools' founded by the Abhé J. B. de la Salie in France (1684). The system of elementary education given hy these French schools was adopted

These societies have been formed as allies to the church, and use ali possible power in exerting influence chief-justice of the Isle of Ely. He over young people, in persuading edited Blackstone's Commentaries on them to follow Christ and dedicate themselves to His service.

Christian Knowledge, Society for Promoting, see Society For Pro-MOTING CHRISTIAN KNOWLEDGE.

Christian Science, the name given hy Mrs. Mary Baker G. Eddy (1821-1910) (see EDDY, MRS.) to a religious system of psycho-therapeutics, first taught by her in the U.S.A. in 1866. This system is emhodied in the texthook of the C. S. movement, Science and Health with Key to the Scriptures (700 pp.). This remarkable hook, which is Mrs. Eddy's chief work, was first published in 1875, and hy Jan. 1909 it had gone through 440 editions, and although the cheapest tions,' and although the eheapest form of the book costs \$3 (12s. 6d.), upwards of 500,000 copies had been being Mr. S. L. Clemens, 'Mark Twain') who maintain that Mrs. Eddy did not write the book, but her claim to authorship has been upheld (albeit in a negative way) by a United States court (Eddy v. Arens, Others maintain that Mrs. 1883). Eddy learned all she knew of the theory and practice of metaphysical healing from a Dr. P. P. Quimby nealing from a Dr. F. P. Quanto, (q.v.), with whom she was intimately associated for three years before his death in 1866. This Mrs. Eddy denied, maintaining that her system of heal-ing was entirely different from that of oguimhy, who practised mesmerism, or, in the technical language of C. S., 'melicious animal magnetism.' But whether or no Mrs. Eddy is under obligation to others in the matter of the paternity of C. S., there can be no dispute that this most extraordinary woman did securely lay the founda-tions of and build up that great and growing cdifice. The Church of Christ, Seientist. The C. S. seet (the first church was founded in Boston, U.S.A. in 1879) shares with its contemporary, the Salvation Army (founded 1878), the distinction of heing the most significant religious movement in the English-speaking by Mr. Rice in drawing up the rules world during the last quarter of the for his Irish institute.

19th century. Since 1906 the church Christian Connection, a seet for has not published statistics, but acfor his Irish institute.

Christian Connection, a seet for has not published statistics, but achanding together Christians who have eording to the late Mr. F. Podmore no definite ereed. They take the (Contemporary Review, January), in Bible as the foundation of their helief 1909 there were 1100 C. S. churches and conduct They were founded in the world with the state of the state and conduct. They were founded in throughout the world, of which 37 America in the early part of the 19th were in the United Kingdom. In that century. Their views are much the year there were in America alone

60,000 professing church members, and there were no less than 4000 C.S. practitioners in different parts of the globe. These practitioners are chartered by the 'Metaphysical College' of Boston, Mass. (opened 1881), to practise mental healing for pecuniary recompense (if desired), of the church, and thither repaired 30,000 of Mrs. Eddy's followers when the 'Mother Church' was dedicated in 1906. This Mother Church, or, to give it its other official title, 'The First Church of Christ, Scientist' (the definite article writerly article write definite article curiously being denied py. the by-laws contained in the erch Manual to the branch Church branch | churches) is a handsome domed temple built of granite, capable of seating over 5000 people. The total cost of this church was £400,000 (of which £8000 was spent on the organ), and its membership runs into five figures. Membership in the Mother Church is acquired or retained by payment of a 'capitation tax' of not less than a dollar. The C. S. Church is governed by a Board of Directors of five persons, and the Mother Church by forty 'First Members.' Tho number of Christian Scientists

pp., Harper's) expressed the belief that C. S. is destined to make the most formidable show that any new religion has made in the world since the birth and spread of Mohammedanism, and that within a century from now it may stand second to Rome only in numbers and power in Christonly in numbers and power in Caristiendom.' Of the many publications owned by the C. S. Publishing Society (Falmouth St., Boston, Mass.) mention may be made of the Christian Science Monitor, a daily; the Christian Science Sentinel, a weekly; and the monthly official organ of the First Church, the Christian Science Journal. What then is the message of C. S. that has commended itself to S.

that has commended itself to so large a number of educated people? What is the 'something in it' that has enabled the sect so to thrive? The fundamental propositions of C. S. are summarised in the following

course, logically perfect, but the every-day experience of the wayfaring man is that sin and suffering do exist: he needs no more proof than his own unhappiness. This objection is met by the Scientist drawing a distinction between the Divine Mind and Mortal pecuniary recompense (if desired), and of their number by far the larger proportion are women. Thus (again quoting Podmore) of the 161 C. S. practitioners in the United Kingdom in 1909 only 23 were men. In Boston, is situated the headquarters reflection of the Divine Mind and the pressure of the present the present of the pressure of the present the present the pressure of the pr Mind. It is mortal mind-man's invited to partake of his birthright: to be, therefore, perfect as his Father to be, therefore, periect as his rather in Heaven is perfect. On the title page of the C. S. text-book Shake-speare is quoted: 'There is nothing either good or bad, but thinking makes it so.' This idea is elaborated in what is known as 'the scientific statement of being,' as follows: (page 468) 'There is no life, truth, intelligence nor substance in matter. All is infinite. Mind and its infinite maniinfinite Mind and its infinite mani-festation, for God is All-in-all. Spirit is immortal Truth; matter is mortal error. Spirit is the real and eternal; matter is the unreal and temporal. Spirit is God, and man is Ris image Spirit is God, and man is his image and likeness. Therefore man is not material; he is spiritual. If man will but realise his spiritual being, says the Scientist, sin, sickness, death, and all the other 'errors' of mortal mind by forty 'First Alembers.' The fail the other errors or mortal mind number of Christian Scientists that have at present a 'claim' on throughout the world has been computed to be fully 1,000,000, and is harm the man who 'holds the right rapidly' the well. How complete is the boon offered by C.S. may be indeed by these offered by C.S. may be indeed by these the real transfer in the property of the service of t Key to the Scriptures, which are to be found over a door in one of the C. S. churches in London. Divine Love always has met and always will meet every human need.

This is no place to examine the evidence adduced by the Christian Scientist in proof of his claim that 'Divine Science' still heals the Divine Science still nears the sick in the same way and by the same principle as did Christ and His disciples. The curious may attend the Wednesday evening services of the Science Church and hear the oral testimonies of those who express their gratitude for deliverance from many forms of mortal ills, deliverance which they attribute to C. S. Others may read of similar cures in the last hundred pages of Science and Health, etc. (chapter entitled 'Fruitage'). The reader must be left to form his C. S. are summarised in the following the reader must easily the self-evident propositions: '1. God is own conclusions as to the supendons All in all. '2. God is good. Good is own conclusions as to the supendons challenge of C. S. to orthodox theomothing is matter. '4. Life, God, but as a tailpiece to this article may omnipotent Good, deny death, evil, but as a tailpiece to this article may be given the opinion of one who has sin, disease.' The syllogism is, of made a serious study of the question. own conclusions as to the stupendons challenge of C. S. to orthodox theo-logy, physical science, and medicine, but as a tailpiece to this article may

Mark Twain (like most humourists. a) the Houses of Parliament (1866). the most mercenary motives. He dreads what he regards the incvitable growth of the cult, fearing that it will stifle intellectnal freedom, but he bears testimony to its beneficient bears testimony to 115 Demenciant activities in the following remarkable passages: 'Remember its (C. S.'s) principal great offer: to rid the Race of pain and disease. Can it do so? In large measure, yes. How much of pain and disease in the world is created by the imagination of the sufferers, and then kept alive by those same imaginations? Four-fifths? Not anything short of that, I should think. Can C. S. hanish that fourfifths? I think so. Can any other (organised) force do it? None that I know of ' (page 53). In the meantime Mark Twain thinks that the Scientist would kill off a good many patients. Bnt,' he continues (on page 268), there is a mightier benefaction than the healing of the body, and that is the healing of the spirit—which is C. S.'s other claim. So far as I know, so far as I can find out, it makes it good. Personally I have not known a Scientist who did not seem serene, contented, unharassed. I have not found an outsider whose observation

Christiania, the cap. city and an administrative dist. (amt.) of Norway, area 6.5 sq. m., built on the S.E. coast, at the head of the C. Fjord, and very heautifully situated among pine woods and hills. There are two railway stations with a good service of trains to all parts of Norway and into Sweden. Electric trams connect the city and the suburbs; the roads the city and the suburbs; the roads Hamburg, Hull, Grangemonto. and are good and the easy travelling has London. Its industrial importance made it a centre of extensive tourist rests on the salmon and mackerel traffic. The town is nearly all modern, issheries rather than on the woodone of the oldest buildings being the Akershus Fortress, now a prison, (1900) 14,701. Gormerly a royal palace, and the Akers church built in the 11th centre Colony of Gold Coast on W. coast of tury hut restored in 1860. Among the principal public buildings are

profoundly earnest thinker), in his where the archives of the nation are book already referred to subjects Mrs. kept; the university founded in 1811, Eddy on many grounds to a very by Frederick VI. of Denmark, which severe criticism. attributing to her has 1400 students attached to it, with a fine library containing 85,000 vols., also a numismatic collection and a splendid collection of Scandinavian antiquities; and possesses botanical gardens and an observatory. The royal palace is a modern building completed in 1848. The cathedral of Our Saviour is in the principal street, Karl-Johans-gade, close to the Parlia-ment House. North of the university is the museum of art containing a fine collection of ancient and modern painting and sculpture. The His-torical Muscum attached to the Art Museum contains a good collection of northern antiquities; amongst these are the remains of two Viking ships excavated in the neighbourhood from burial places of Viking chiefs. One is the Gokstad ship belonging to the 11th century in fairly good preserva-tion. The National Theatre, close to Parliament House, possesses statuse of Ibsen and of Björnson. The chief industries of the eity are foundries, weaving and spinning paper mills, a large tobacco factory, nail factorics, sail making, saw mills, matches, etc. The city of C. was de-signed and laid out by Christian IV. found an constitution of Scientists furnished mm a that differed from my own. Surely no Balaam called in to curse ever departed leaving a heartier hiessing. The Truth and Error of Christian Science by M. Carta Sturge, 1903; Christian Science by Mark Twain; Religion and Medicine by Mark Twain; Religion and Medicine by Mark Twain; Religion and Medicine by Rev. Dr. McComb and Dr. Worcester (Kegan Paul); Mesmerism and Christian Science by F. Podmore; Miscellaneous Writings by M. B. G. Eddy; is compelled to do its business lower down the fjord at Drobak. Pop. (1910) 242,000.

Christiansand, a seaport on the S. Science S. Situated on a fjord of W. Science S. in 1624. The suburbs of C. are rapidly growing: they contain some interest-

Christiansand, a seaport on the S. coast of Norway. Situated on a fjord of Skagerrack, 175 m. S.W. of Christiania by sea, its scenery is still very picturesque, although the wooden houses have, since the fire of 1892, heen replaced by brick. It is connected by the Saetersdal Railway with Byglandsfiord (48 m. away), and is served by all the steamers which run between Christiaoia and Hamburg, Hull, Grangemontb. and London. Its industrial importance

Christianstad, or Kristianstad, the fortified capital of the southern prov. of Christianstad, Sweden. It is situated near the Baltic (14 m. away), on the R. Helge, 265 m. S.W. of Stockholm. It is noted for its fine church, and manufactures linen and

Christiansted, or Bassin, a tn. in St. Croix, cap. of Danish W. Indies. It has a good harhour, and exports sugar, molasses, and rum. Seat of the

governor-general. Pop. 2000. Governor-general. Pop. 8000.

Christie, Alexander (1897-60), a and was second wrangler. In 1806 he Scottish painter. He was horn in Edinburgh, and studied painting and at Woolvich Military Academy, under Sir William Allan. He was and in 1835 became professor of made director of the ornamental nethematics. He wrote many department of the School of Art in 1845, and an associate of the Royal articles for the Royal Society on the 1845, and an associate of the Royal effects of temperature and the solar Academy In 1842. His hest known rays on the magnetic needle, and also picture is 'An Incident in the History on the conductivity of certain metals. Christie, William Dougal (1816-74), Illustrated the Abbotsford edition of an English diplomatist, horn in Bombay. From 1842-7 he stood as M.P.

Scott's Bride of Lammermoor. Christie, James Elder (b. 1847), an artist of the Glasgow school. He was born in Fifeshire, Scotland, and studied at the Pairley Art School and also at the Royal Academy. In 1874 he journeyed to London, and in 1877 won a gold medal at the Royal Academy for historical painting. His academy for historical painting. His-best known pictures are: 'Pied Piper of Hamelin,' 1881; 'Blind Grannie,' 1886; 'The Four Maries,' 1889; 'Hallowe'en,' 1892; 'Bonnie Kil-meny,' 1900; and 'Cupid's Bower,'

Schleswiz-Holstein, which is a mari Owens College, Manchester, and in time province in N.W. of Prussia. 1857 became a harrister at Lincoln's Inn. He was also chairman and an administrative trustee of Sir J. Whitworth's works. He wrote several books, the most important being Elienne Dold, the Martyr of the Renaussance, 1899; and The Old Church and School Libraries of Lancashire, woollen goods besides gloves. Pop. 1855. He also edited a number of books for the Chetham Society.

Christie, Samuel Hunter (1784-1865), au English mathematician. He was the son of James C. the Elder, and was horn in London. He took his B.A. degree at Cambridge in 1805 and was second wrangler. In 1806 he was made third mathematical assist-

bay. From 1642-7 he stood as M.P. for Weymonth. He was consulgeneral to the Argentine Republic in 1854, and to Brazil in 1859. He retired in 1863. He wrote the Biography of the First Earl of

Shaftesbury. Christie's, a world art - famed anction room in London. The full title of the firm is Christie, Manson, and Wood, of King Street, London. It is so celebrated that Mr. W. Roberts has thought fit to write the story of the house at great length in a book entitled Memorials of Christie's, published 1807. The most Christie, James, the Elder (1730- Christie's, published 1897. The most 1803), an anctioneer of London celebrated sale that ever took place Dec. 5, 1766, is the date of his first there was that of the Hamilton sale, and the exhibitions of the Royal Palace collection in 1882. It lasted Academy used to be held on his for screening days and the content of the content of the lasted to be beld on his for screening days and the lasted to be beld on his for screening days and the lasted to be beld on his for screening days. Academy used to be held on his for seventeen days, and the amount premises in Pall Mall until 1779. He of money realised was £397,562. All subsequently moved next door to along the history of this house there subsequently moved next door to along the history of this house there Gainsborough at Schomburg House. has been a succession of interesting Christie, James, the Younger (1773-1831), an auctioneer and an antiquary. He carried on the business of his father, and moved to the present premises, at 8 King Street, St. James's 1875-8 with 2150,000; the Fountaine Square, London, in 1824. The full collection in 1884 with 296,200. In title of the firm is now Christie, 1892 the Dudley collection of ninety-Manson, and Wood. C. wrote several works, among them are: An Inquiry into the Antient Greek Game (i.e. chess), 1801: Etruscan Vases, 1805: dolary, the Worship of the Elements, 1814; and Greek Vases, 1825.

Christie, Richard Copley (1830-1214; and Greek Vases, 1825.
Christie, Richard Copley (1830-1901), an English scholar and bihliophile, born at Lenton in Nottinghamshire. He came under the influence of Mark Pattison at Oxford, and afterwards became his most intimate friend. In 1854 he hecame professor of history and political economy at

The Duke of Cambridge's pictures, jewels, etc., realised £89,734 in 1904; the Orrock collection of pictures the same year fetched £65,946; and Lord Tweedmontb's collection in June 1905 brought in £49,548. In May 1905 brought in £49,548. In May 1905, 15,000 guineas was paid for a reputed Italian 16th century biberon in rock crystal. The value of Turner pictures has much increased during recent years, as in 1906 his 'Rape of Europa 'realised 6400 guineas, while in 1909 his 'Mortlake Terrace' realised 12,600 guineas. This is about the highest price ever paid for a landscape in England. The jewels of Mrs. Lewis Hill were sold in 1907, and fetched nearly £95,000, while 1650 guineas was paid for Sir Luke Filder's 'Venetian Flower Girl 'in her collection. This is the largest her collection. This is the largest price ever paid for a picture by a living artist.

Christina (1632 - 59), Queen of Sweden, only daughter of Gustavus Adolphus and Maria Eleonora of Brandenburg, born 1626. Her father died in her sixth year. During her died in her sixth year. During her minority the chancellor, Axel Oxen-stiern, directed the regency, and in-structed her in politics. Johannes Matthias educated her more as a boy than a girl, and every one held the highest opinions of her understand-ing and courage. In 1614 she assumed the sceptre, and impressed every one with her cleverness and good sense. with her cleverness and good sense. Unfortunately she allowed her pride to rule her judgment, and showed herself so capricious and reckless that herself so capricious and reckless that the country became anxious. Her treatment of the chancellor was un-pardonable, and in her efforts to thwart him and his policy, she caused considerable harm and diminished materially the gains that Sweden should have obtained from the Thirty Years' War. She founded a national school of literature, and encouraged science and learning with great energy. She collected men of learning about ber, but allowed her admiration of them to become too extravagant; thus at the death of extravagant; thus at the death of Descartes, the French philosopher, in 1650, she wished him to be buried at the feet of the Swedish kings and to build a magnificent mausoleum to his memory, which, bowever, was not permitted. She refused to marry, and the persistent importunities of the Senate, who were anxious about the succession to the throne, caused her to escape the difficulty by appointing Charles Gustavus, ber cousin, as her successor. She became more reckless

Sir Joshua Reynolds, realised the extraordinary price of 1000 guineas. Imagination, that a queen in the prime of her life should voluntarily give up her throne, so a great ceremony took place at the castle of Upsala. She retired from Sweden, dressed as a man, and at Innsbruck she adopted the Catholic faith, having always held the Protestant religion in contempt. In 1655, she entered Rome, again dressed as a man, and astonished the people by her extraordinary bebaviour. The rest of her life was n series of adventures and scandals. She twice returned to Sweden in the vain bope of being received as queen again. She died in Rome in 1654, quite poor and neglected. She is accused of ordering the assassination of Monaldischi, her major-domo, in 1657. Her valuable library of MSS, was presented to the Vatican by Pope Alexander VIII. in contempt. In 1655, she entered Vatican by Pope Alexander VIII. See Lives by F. W. Bain, 1890; J. A.

Taylor, 1909. Christine de Pisan (1364 - c. 1430), a French poet of Italian parentage. She married the secretary of Charles V. of France, her father being his astrologer. On the death of her husband in 1389, she had recourse to writing as a means of support for herself and three children. She refused invitations from Henry IV. of England and Visconti of Mian who offered her a home at their courts; offered her a home at their courts; for she already enjoyed the patronage of Charles VI. and the dukes of Berry and Burgundy. Her Le Livre des fails el bonnes mæurs du sayge roi Charles (1405) gives an interesting contemporary picture of Charles V. and his court, whilst in her Livres des trois vertus (1407) will be found a unique description of the domestic life of the time. In La Vision (1405) she tells her own story, and her La she tells ber own story, and her La Cité des dames (1407) contains a valuable scries of contemporary portraits. She was versed in the Latin poets, and assumed the championship of ber sex in Epitre au dieu d'amour (1399), as also in Dit de la rose (1402).

christinebamn, a tn. on the N.E. sbore of Lake Wencr, 25 m. E. of Karlstad in Wermland, Sweden. Christison, Sir Robert (1797-1882), a Scottisb physician and toxicologist, graduated at Edinburgh and studied toxicologist, graduated at Edinburgh and studied toxicology in Paris under the famous Orfila. From 1822-32 he held the chair of medical inrisprudence in Edinburgh, and from 1829, when he published his Treatise on Poisons, still a standard work, and was np-pointed medical officer to the crown he frequently gave professional evidence in notorious criminal cases. and wasteful, and unwise in her In 1832 be was promoted to the pro-foreign policy. In 1854, she was per-suaded to abdicate in favour of her pentics, and in 1848 became physician

to the queen. C. wrote also on the into Christian usage. The lighting of

pathology of the kidneys (1839). Cbristlieb, Theodor (1833-89), German theologian, was a native of Birkenfeld, Würtemherg. Ho gave up his ministry at the German Protestant Church in Islington, London, in order to take charge of a parish in Friedrichshafen by Lake Constance. Finally in 1868 he accepted a professorship at Bonn. Modern Doubt and Christian Belief (1868 in the original) is the most widely read of his numerous writings.

Christmas (Cristes masse, the mass of Christ), the season in which the hirth of Jesus is commemorated, the central point of the celebrations being C. Day, the supposed actual anniversary of the nativity of Christ, versary of the nativity of Christ, which is generally celebrated in Europe on Dec. 25. The beginning of the celebration of C. as a Christian the exactly dated. anniversary cannot be exactly dated. Though some references are made to it as fionrishing in the time of Telesphorus (A.D. 138-161) these are probably spurious, and the first certain mention of the festival is in the reign of the Tenance (A.D. 138-161) the reign of the Emperor Commodus (A.D. 180-192); it is also spoken of in the 3rd century by Cicment of Alexandria. Diocletian, learning that a number of Christians were gathered together in a certain building colchesting the in a certain huilding celebrating the anniversary of the founder of their religion, caused the church to he ignited, and all the worshippers perished in the flames. The early church had no fixed time to celebrate C.; by some hranches it was observed of, by some nranches it was observed in May, by some in January, and hy others concurrently with Epiphany. It is, however, certain that the time now fixed could not by any possibility have been the period of Jesns birth, as December is the rainy season in Judes. in Judœa. The choice of this season was probably due to the general re-cognition that the winter solstice was the turning-point of the year; all things seem to prepare then for a fresh period of life and activity after the winter sleep of death. Such a belief was general among all nations; the one which especially influenced the Christian Church was probably the Roman festival of the winter solstice, celebrated on Dec. 25 (Dies Natalis Solis Invicti). The Celtic and Germanic tribes held the season of C. in veneration from the earliest times, and the Norsemen believed that personal evidence could be obtained of the existence and work of their dcities at that time, as they were supposed to be present and active on earth from Dec. 25 to Jan. 6. Many other ancient beliefs and customs anent this period havo been handed

the Yule log, a custom once widely prevalent but now fallen into desuetude, is an inheritance from Lithuanic mythological lore. The practice of decorating courches is pagan in its origin, and the mistletoe so widely used for that purpose was the sacred plant of the Druids. The custom of presenting friends with gifts at C. dates back to the time of the ancient Romans. In Scotland, in the 15th century, the Yule celebrations lasted from Dec. 18 to Jan. 7. The latter date was termed Uh-halie Day, and within the period of the celebrations Yule Girth 'was proclaimed over all the country, and the worst of miscreants enjoyed sanctuary, as no court had the right to punish them. The 'Up-hellya' of the Shetland Isles is a relic of this ancient custom. was, however, the aim of the Christian church to ennoble and lift above their heathen associations all the customs that survived from hygone ages, and with this ond their noble llturgy was framed, and many dramatic representations of the hirth and early events in the life of Christ were instituted. Hence the so-called mangersongs, C. carols, special dishes for C., etc. During the Middle Ages and later, the various customs which were practised at C. time, and the legends associated therewith, were exceed-ingly numerous; most of them have now hecome obsolete, though the writings of Dickens revived the interest in them for a short time. There are several distinctive features still associated with C. The C. tree. a young spruce tree, still survives: it dates back to the Roman saturnalia. as is proved by Virgil's lines 'Oscilla ex alta suspendent mollia pinu' (Georgics, ii. 389). It was introduced into England from Germany in the reign of Queen Victoria. Father C, or Santa Claus, who is supposed to come down the chimney and place gifts in the children's stockings that arc suspended by the fireplace, has a parallel in every European country. He is identified with St. Nicholas (the American name), Robin Goodfellow, Knecht Ruprecht, and the French Bonhomme Noël. St. Nicholas Day is properly on Dec. 6. C. as a social festival is undoubtedly observed with much less whole-beartedness than formerly. The festivities of the season wero formerly kept up uninterruptedly for over a week; now C. Day and Boxing Day only are general holidays. The custom of giving gratuities to servants, etc., at C. is also Roman in its origin. The Romans named such gifts 'strene,' and they were called 'boxes' from the foot that however home you to down to our times, and have crept the fact that boxes were hung up in

offerings to be dropped therein for the poor and needy of the parish. These hoxes were opened on the day after C. Day and their contents distrihuted; hence the day was known as 'boxing-day,' and by a common metonymy the gifts themselves came to be known as C. boxes. Public servants formerly received C. boxes, but this was discontinued anous 10-20, and now postmen, municipal servants, and tradespeople's employees are the also known as the Black Hellebore, is a species of Ranuculacee which is a species of Ranuculacee. cards, now so universally used, were mstituted in 1846, and the industry winter. The leaves are evergreen, the has grown enormously. Much advance has been made in the production of cards, and some really artistic at first a white or reddish-tinged reproductions can now be obtained. The Roman gladiatorial games at fertilisation has taken place. Despite seasons of rejoicing have a modern the fact that the plant is rannaparallel in football matches, which vast multitudes attend at C. time from a religious point of view most considerable resemblance to a single from a religious point of view most considerable resemblance to a single from a religious point of view most considerable resemblance to a single from a religious point of view most considerable resemblance to a single from a religious point of view most considerable resemblance to a single from a religious point of view most considerable resemblance to a single from a religious point of view most considerable resemblance and the religious productions can be a religious point of view most considerable resemblance. From a religious point of view great! importance is naturally attached to the commemoration of the birth of the founder of the Christian religion. The day is celebrated by special services in the Roman Catholic Church, and the priest is allowed to celebrate three masses on the same day, the first at midnight, the second day, the first at midnight, the second at dawn, and third in the morning. In the Anglican Church, there is a special service, special psalms are sung, and the Athanasian Creed is recited. Most of the Nonconformist hodies also celebrate the day hy special services, etc. In Scotland, C. is not kept as a special holiday. New Year's Day taking its place: the is not kept as a special honday, New Year's Day taking its place; the Preshyterian Church, therefore, has no special services for C. Day. Hansel Monday, the first Monday of the New Year, is the equivalent of Boxing Day in Scotland, and in the more northerly parts of England. For further information about C. customs, etc., see Christmas and its Associations, by W. F. Dawson, 1901; Brand's Popular Antiquities, 1870; and A. Tille's Yule and Christmas, 1899. Christmas Island: 1. An island,

never more than 12 m. long and 9 m. orong in the eastern part of the In-i dispute.

dian Ocean, 190 m. S. of Java. It is a Christopher II. (1319-32), King of British possession under the government of the Straits Settlement. It is the deposits of phosphate of lime, the result of the continuous action of the minor, Valdemar V. But the latter's guardian expelled him finally. How-which give the island its one commercial value. It is the top of a submerged monntain, some 15,000 ft. however, which C. secured the recognition of Valdemar as heir to the Danish merged monntain, some 15,000 ft. throne, he received the duchy, after high, of which 1200 ft. only rise above the surface of the sea. At Flying Fish incorporated with Demnark. During broad in the eastern part of the Inthe surface of the sca. At Flying Fish

church at C. time by the priests for heen inhahited hefore Dampier visited it in 1868. 2. An island (with a 90 m. circuit) in Polynesia, Pacific Ocean, lies a little above the equator, S. of Honolulu. Discovered by Cook in 1777, it was annexed by Great Britain in 1898 with a view to laying the Pacific cahle, of which Fanning Island (to the N.W.) is a station. The cxports are guano and mother-of-pearl.

> native of Europe and flowers in the rose, for there are five petaloid sepals and the stamens are numerous. the hellehore Formerly was considered to he of medical value in cases of mental dcrangement, but it is little used nowadays; it contains a property which renders it an acrid poison.

> Christophe, Henri (1767-1820), a negro king of Haiti. Originally a negro king of Haiti. Originally a slave of Grenada, he became a chief under Dessalines, Emperor of Haiti. After the latter's murder he established himself as king of the North. Civil war followed, hat he was declared king in 1810. His cruelty caused a revolt, and to escape imprisonment he shot himself. Christopher I. (1252-59), King of Denmark, succeeded his brother, Abel. He was obliged to make over the rich

> He was obliged to make over the rich duchy of Schleswig to his nephew, Valdemar, thereby beginning the regrettable dissensions over the crown lands. When C. imprisoned his primate, Jakob Erlandsen, like a common felon, because of his devotion to the pope and contempt for his own authority, he was excommunicated, but sudden death (probably by poison) put an abrupt end to the dispute.

incorporated with Denmark. During Cove there is a settlement of 250 his reign the royal perogativo was people, consisting of Sikhs, Chinese, considerably curtailed, and tho privi-Malays, and Europeans. It has the leges of the aristocratic party streng-curious distinction of never having thened. The virtual dissolution of the provinces, Schleswig, Eastern Denmark, and Jutland and Fünen, cloarly demonstrates the weakness of his rule.

Christopher III. (1439-48), King of Norway and Sweden, besides Den-mark. C. owed his accession to the Rigsraad or Senate, not to the pcople. In his reign the peasants were downtrodden, and in Jutland, after their rlsing of 1441, were reduced almost to the condition of scridom.

Christopher (1550-68), Duko Würteinberg, son of Duke Ulrich I., died 1605. He completed the work of his father by converting his subjects to the reformed Protestant faith and establishing the Lutheran church. He introduced a system of church government, part of which still endures. He was a recognised protector of the Protestants throughout the

religious wars of the period. Christopher, St. (d. A.D. 250), the patron of ferrymen, was a great

preachor of Syrla, who converted, it is said, 48,000 people to Christlanity, before he himself was finally mar- were nominated tyred, after oxeruciating during the porsecutions of A.;

His world-wide renown is legond rather than to fact.

founded on a beantiful story, of which the following is a baro epitome. A little child onco asked Christopher, who was of imposing stature, to carry him over a bridgeless stream. Stag-gering across, the bearer eried out against the strange heaviness of his load, but the boy replied: 'Marvel not, for with me hast thou borne the sins of the whole world.

Christopoulos, Athanasius (1772-1847), a Greek poet, studied at Buda and Padua, and from 1811 assisted Prince Caradja, hospodar of Moldavia and Walachia, in making a code of laws for his country. Whon Caradja fell, ho lived in retirement wrote a political tragedy, Politika Parallela, on different forms of government.

Christ's College, a college of Cambridge University, England, founded in 1505 by Lady Margaret Beaufort, mother of Henry VII. On the site of C. C., previous to 1505, had stood 'God's House,' founded by William Byngham in 1439. This was only a small college or hall, and Lady

kingdom at his death into the Scanian | Inigo Jones, and is a very fine example of the style. The garden is especially beautiful, having suffored least of all the cellege gardens during rebuilding or enlarging. The rooms once occupied by the foundress have been preserved with very little alteration. John Milton was a scholar here, and a mulberry tree said to have been planted by him still lives and bears fruit. Among C.'s famous alumni are Bishop Latimer, John Leland, the antiquary, and Charles Darwin. college is closely connected by exhibitions with schools in the N. of England.

Christ's Hospital (the Blue-coat School) was founded in 1550 by Edward VI. The original buildings were those of the monastery of the Grey Friars in Newgate Street, Lon-don. King Edward VI. gave a grant of money, and various charitable persons assisted, and it became richly endowed. It was at first devoted to orphans, and in 1553 was providing home and education for 400 children. The mayor and citizens of London governors in Its s Guy, the founder of

endowed the school ar. In 1677 'parish The chlidren and foundlings' were oxrepresentation of him in art with the eluded and only children of the freeinfant Christ upon his shoulder is men of the city were admitted. founded on a beantiful story, of which Several new regulations have been added from timo to timo, and children presented by governors are admitted to the foundation, also sons of naval officers. The dress of the boys has scarcely differed in style since 1550; they wear a long blue coat and knee-breeches with yellow stockings and white neck bands, the only difference being that the yellow pettlcoat and flat blue cap have been discarded, and no covering for the head is worn. From time to time alterations were made in the buildings; in 1692 Sir Christopher Wren built the S. front, which is now destroyed. In 1902, the school was removed to new huildings and composed his lyrics and drinking at Horsham in Sussex, designed by songs which earned him a wide popn-Sir Aston Webb, and Ingress Bell: Besides translating Homer the building is on an entirely new and Herodotus into modern Greek, he plan for public schools, accommodat-700 day ing boarders and 600 The old buildings were scholars. destroyed. oxcept а portion corporated in the enlargement St. Bartholomew's Hospital. The boys still retain the ancient name of Greclans and deputy Grecians for the two highest classes. The main The main the Latin school is divided into the Latin school and the mathematical school, small collego or hall, and Lady corresponding to the usual classical Margaret's endowment provided for and modern sides. There are many a much larger foundation. Part of university scholarships and exhibite building was refaced in the 17th tions, and large sums are spent contury. The Fellows' building in the lanually in apprenticeship for both second count was related by the boys and give. second court was partially built by boys and girls. Many distinguished

chrome orange.

men have been pupils at C. H., dyeing and as a pigment. It is found among these were Charles Lamh. among these were Charles Lamin, Samuel Coieridge, Camden, Stilling-ficet, and Leigh Hunt. The girls school, also originally in Newgate Street, was removed in 1798 to Hert-ford, and now takes 350 hoarders and 400 day scholars. Lamh's essay on C. H. gives a picture of the school in its old days.

Christ's Thorn, or Paliurus aculeatus, a species of Rhamnacee which flourishes in S. Europe and in W. Asia. The shruh is common in Palestine, and is said to have provided the crown of Christ; the thorns are formed from the stipules. The name is applied for a similar reason to other plants, especially to Zizyphus Spina-Christi, another species of the same order with stipular thorns, related to plants which produce the fruit known

as the jujuhe.

Christy, Henry (1810-65), English ethnologist, was a director of the London Joint-Stock Bank, hut from 1851, when his interest in ethnoiogical questions was extraordinarily stimulated at the Great Exhibition. he freely gavo his whole life to travel and research. From 1858 tlll his death he explored the caves in the valley of the Vézère in Southern France, trying to deduce from the flint implements, etc., he found the antiquity of man in Europe. He published the results of his investigations, and at his death hequesthed to the and at his death hequeathed to the nation his unique archæological col-icction, made in Scandinavia, Den-mark, British Columbia, and Mexico, hesides in France.

Chromatic Scale, in music, a series of semi-tones written with sharps ascending and flats descending, not involving a change of key, and

arranged with accidentals.

Chromatic Thermometer, an apparatus for measuring temperature by ohserving the colour of the light radiated from a heated body. A heated hody changes in colour from red to white as Its temperature rises, and a comparison of the colour with a standard tint gives an indication of l

the temperature.

Chromatophores, pigmented cells in the surface of plants and animals, whose function appears to he re-stricted to the production of colon-for appearance sake. They are de-veloped out of young cells which may hecome leucoplasts or stareh-formers, chloroplasts, or chlorophyll cells with nutritive functions, or may specialised to the production of pigment only.

Chromatype, a photograph on paper sensitised by salts of chromium.

Chrome Yellow (chromate of lcad,

as a mineral in Siheria, in the Urals, Brazil, and the Philippines, under the name of crocoisite. It may he prepared by precipitating a solution of a icad salt with potassium dichromate. Different shades may he obtained by mixing with lead sulphate, which gives a lighter shade, or with chrome red, which gives numerous shades of

Chromic Acid (H2CrO4) is important hecause of its salts, the chromates. It is liberated on adding to a concentrated solution of potassium anhydrochromate a sufficient excess of sulphuric acid. The acid, when the solution is concentrated, loses water and deposits deep red crystals of chromic anhydride or chromium tri-oxide. The excess of sulphuric acid and potassium sulphate is washed out with nitric acid, which is then driven off by gentle heat. It is doubtful whether C. A. has really heen obtained, but red crystals have heen ohtained by cooling a hot saturated solution of the trioxide which have heen regarded as the acid. With sulphuric acid, C. A. acts as a powerful oxidising agent, and as such is much used in organic chemistry and cleetrie used in organic chemistry and cleetrie batteries, while in botany it is used for dissolving intercellular tissue. The acid is used for dyeing in red and hrown colours. C. A., however, is not so important as the chromates. In their production the native chromeiron-ore, Fc(CrO₂), is used. This is heated in the powder form with lime and potassium carhonate in a repreparatory formace where activities the verberatory furnace, where oxidisation takes piace and potassium and calcium chromates are formed together with ferric oxide. This is treated with water, and the chromates thus extracted. For the production of the bichromate of potash, or, more properly, potassium dichromate (K₂Cr₂O₇), which is used as a pigment, the solution of chromates is treated with sulphuric acid, and the potassium sulpliate formed produces, by means of donbie decomposition, the potassium chromate and pre-cipitates calcium sulphate. To convert the chromate into dichromate, a certain quantity of sulphuric acid is added to the solution. The bichrore-jaucet to the solution. The bichro-onr mate forms large red prisms, and in de-solution gives a very poisonous acid asy solution. Lead chromate (PbCrO₄) is crs, the 'chrome yellow' of the painter, ith and is of a hright yellow colour. It is he found native in the mineral 'crocoisite, and may also be prepared by precipitation from the chromate or dichromate by a lead salt.

Chromite, a mineral which forms the chief sonrce of chromium and its PhCrO(), a colonring material used in compounds. It consists of chromlum, fron, and oxygen, FeO.Cr₂O₃, and is known as chrome-iron-ore, chromic from it, and it bas been found that from, and chrome-iron-stone. It the prominences are associated with forms octahedral crystals, but is the sun-spots, or facules, which reach usually found in granular masses; its hardness is 5½, specific gravity 4.5, they are often the accompaniment of violent cruptions in the interior colour. It is found in ultra-basic igneous rocks, and is mined in California, New Zealand, Turkey, the Urals, and in the Shetland Islands.

Chromium (symbol Cr: atomic from its, and in the Shetland Islands.

Chromium (symbol Cr: atomic from its, and in the Shetland Islands.

Chromium (symbol Cr: atomic from its, and it bas been found that from it, and it bas been found that the prominences issuing from it, and it bas been found that the prominences issuing from it, and it bas been found that the prominences are associated with the prominences are associated with

Chromium (symbol Cr: atomie weight 52'1), a hard steel-grey metal belonging to the same ehemical group as molybdonum, tungsten, and uranium. It is not found free in nature, bnt in chrome iron orc (Cr2OzFeO), crocoisite, and chrome ochre it is found very frequently. Many green stones, such as emerald and serpentine, owe their colour to its presence. The general methods of production are the reduction of the oxide by carbon in the electric furnace or its replacement by aluminium. Its chief industrial use is the addition of very small quantities to steel, which it renders hard and tenacious. The im-

portant salts are the chromates. Chromosphere, the name given to the shell of luminous gas which surrounds the photosphere of the sun. When observed in its usual condition When observed in its usual condition by the eye or the telescope, the sun is seen as a highly luminous disc with a sharp edge: this is called the photosphere. When, however, the eye cannot see the bright photosphere, as in an eclipse of the sun, its great luminosity does not mask the lesser luminosity of the C., which can then be clearly seen or photographed. The edge of the C. is, however, not regular, for there shoot out from it circuits fame-like masses of luminous gigantic flame-like masses of luminous material called 'prominences,' which testify to the greatly agitated state of the sun's surroundings. With only the telescope, eye, and camera not much more information can be gained with regard to this peculiar atmosphere, but from the kinetic theory of gases we might deduce that the great temperature of the sun would give the molecules of its gaseous con-stituents enormons velocities which would enable them to go a long way from the sun before they were brought back by the gravitational force. The most fruitful method of study, however, is by means of the spectroscope, which has been applied to the pur-pose very successfully by Lockyer, Hale, Deslandres, and others. By its means the C. was seen to be com-

recorded according to the sequence of time. The oldest C. in English literature is the Anglo-Saxon Chroniele. part of which is, in fact, 'the oldest part of which is, in fact, the offices historical prose in any Teutonic language. The Chronicle exists in seven different manuscripts, which are generally designated by the first seven letters of the alphabet. It is probable that the C. in part repre-sents the work of King Alfred, and that much of it was written under his that muce of it was written under his superintendence. The A. or Parker MS. is the best authority for the earlier periods. The work of chronieling contemporary history was prohably carried out by monks. Winprohably carried out by monas. Whitehester, then the most important place in Wessex, being at first the centre from which the work was done. The events of Alfred's reign are written in a spirited style, but the account of events towards the end of account of events towards the end of the 10th century, when the work of chronicling was moved to Canter-bury, is meagre. The A MS. carries the history down to the year 1071. The G MS. is fragmentary and a tran-script of A. The C MS. was written script of A. The C MS. was written from Abingdon, and extended to the conquest, B extending only to 977, and differing very little from C. The E or Laud MS. is of great interest. It was written probably in Peterborongb and is full of patriotic spirit. It is the latest of all the versions, the last entries dating from 1154. In it is to be found the celebrated passage describing the sufferings of the country from ing the suiterings of the country from the self-seeking, avariefous barons of Stephen's reign. For the most part the Chronicle is baro and scrappy. the briefest notices being given of deaths, coronations, the founding of monasteries, and the like. There are, however, some passages such as that relating to the tragic death of King relating to the tragic death of king Cyncwulf in 755, which are written in a vivid, graphic style, and, occasionally, pieces of verse are inserted, of which the poem celebrating the battle of Brunanburgh is pre-eminently the finest. The Chronicle was printed as early as 1643, and has since been frequently reprinted and transleted. The most important editions posed of many elements in the gaseous lated. The most important editions states, particularly hydrogen, belinm, and calcinm, a line spectrum being Parallel (Oxford, 1865), edited, with observed in place of the continuous an introduction by Prof. Earle; respectrum of the sun. It has been possible to photograph any portion of by Charles Plummer (Clarendon

Press, 1892 and 1899); The Anglo-lauthor. Many details are given as Saxon Chronicle, edited, with a trans-to divine feasts, and offerings and lation, hy Benjamin Thorpe (2 vols.), services in the temple, which are not lation, hy Benjamin Thorpe (2 vols.), 1861. Consult The Cambridge History 1861. Consult The Cambridge History of English Literature, vol. i., 1907. Other Cs. of interest to the student of English literature may be briefly noticed. The New Chronicles of England and France, hy Rohert Fahyan (d. 1513), was published in 1516, and related the history of England from the arrival of Brutus to the hattle of Bosworth (1485). The standard edition is that of Sir Henry Ellis (1811). Raphael Hollingeshed's Cronycle, published in two folio volumes in 1578, is of supreme importance from the fact that Shakevolumes in 1578, is of supreme importance from the fact that Shakespeare owed to it so much of his material for most of his historical plays, as well as for one or two others, such as Cymbeline and King Lear. John Stow (1525-1605) assisted in the continuation of Holinshed's C., and himself wrote a Summary of English Chronicles, 1561. Sir Richard Baker's Chronicle of the Kings of England was written in Fleet Prison, and was published in 1641. Two hooks of the O.T. are called Cs., and are dealt with O.T. are called Cs., and are dealt with in a separate article.

in a separate article.

Chronicles, the First and Second Books of the. The Hebrew' name, Divrai hay yamim, signifies 'events of the days,' whereas the Greek of the Septuagint, mapakethylera, means 'things passed over.' These two books of the O.T. form one book in the Hebrew Canon, and eonstitute a history of the Jewish people from the time of Adam up to the return from captivity. Some of the events recorded in the Second Book of Samuel and the Books of Kings are here reand the Books of Kings are here repeated, and the narrative is continued in the hooks of Ezra and Nehemiah. Nothing is known of the anthorship of C., except what can he deduced from internal evidence. It was written hy some one who had Levitical leanings, and who apparently, from the language and syntax he used, lived ahout 330 B.c., or even later. It was therefore written at a time when prophecy had hecome extinct, and when every Hehrew was chiefly interested in Jerusalem, the history of the Temple, and all things that pertained to the theoreacy of Zion. The early part of the history is contracted into the form of gencalogies (1 Chron.i.ix.).

services in the temple, which are not mentioned elsewhere. The author refers several times to the 'Book of the Kings of Israel and Judah,' to a midrash or eommentary of the Book of Kings, and to the words of the prophet Jehu, and the vision of Isaiah. Modern sebolars do not regard warm birdly the historical value of the second se very highly the historical value of C. The most useful commentaries are those by Bertheau and Benzinger. See Driver's introduction to the O.T. and Dr. Curtis in the International Critical Commentary, 1910. Chrono-Chrome, the name applied

by Messrs. Gaumont to their inven-tion, which is the latest application tion, which is the latest application of the study of colour-photography to the einematograph. The pictures obtained by this process reproduce to the ordinary eye the perfect natural colours of the original subjects. With regard to plant and other than the studies monthly butterflies still-life studies-notably bntterflies —the pictures which have already been shown in London are marvel-lously beautiful, the varying shades and even the varying effect of light on iridescent surfaces being wonderfully displayed. The result is almost as good when views of processions or seascapes have been shown, although in these, at times, a green edging was distinctly portrayed. The process has only just given practical results, however (Mar. 1913), and this defect, trifling as it is when compared with the artistic and truthful effects which are already possible, will no doubt soon be remedied. C. pietures are produced without the aid of hand-tinting or any colouring by taking three pictures simultaneously through red, green, and blue-violet sercens, and then throwing the three pletures in the same manner on to the stage in the same manner on to the stage sereen, through similarly eoloured sercens. All shades of red, violet, and hlne, and even a perfect white, are portrayed, although these are the colours which have proved almost impossible of reproduction before. They are described as 'pictures from the palette of the sun,' and the name is really appropriate as for as the is really appropriate as far as the lay mind can judge, although M. Ganmont himself says that improvements are possible.

Chronograms (from Gk. χρόνος, me. and γράμμα, a letter) were the form of gencalogies (1 Chrol.i.-ix.). There are numerous omissions in the records of the reigns of David and Solomon (1 Chron. x.-2 Chron. ix.), the late Roman empire and afteronly those things heing mentioned which serve to prove God's goodness to those who obey the divine law; certain letters in the inscription, Accordingly, the sin of David, the written large to stand out. The revolt of Ahsalom, the Idolatry of Solomon, etc., are omitted, as they do not serve the purpose of the ergo tril Wiphlys. This was stamped

meanings of the words chronoscope lead to an accurate determination of and C. The former should apply to the time spent by the sbot in travers-instruments which allow the extent ing the distances between the screens. of passage of time to be seen by reference to a dial or other indicator, while a C. should possess an apparatus for making permaneut records of certain desired periods. A stopwatch is therefore a chronoscope, and a watch or clock provided with a stylus capable of tracing lines proportionate in length to the corresponding proportionate in length to the corresponding proportionate in length to the corresponding proportion and the correspond ponding periods of time would be-come a C. Cs. are usually constructed to indicate very short periods with great accuracy, and for this purpose the ordinary clock mechanism is unsuitable, as any error within the period of its escapement can be introduced. Cs. of various forms are used for estrangical purposes for estimafor astronomical purposes, for estimating high velocities, for measuring certain physiological phenomena, and even for determining the finish of a horse-race. The essential parts of a C. are a pendulum or other mechanism for indicating solar time, a stylus or recorder which can be applied promptly at the beginning of the period and released at the end, and a moving surface on which the record is made. Instead of a pendulum or clock, actual time may be indicated by the vibration of a tuning-fork, to one of the prongs of which a light stylus is fixed. When the period of the tuning-fork's vibrations has been ascertained by comparison with mean solar time, it is possible to indicate small fractions of a second by

on a coin struck by Gustavus broken by the shot, again re-estab-Adolphus in 1632 (MDCXVVVVII.). lished, and so on to the end of the Chronograph, an instrument by series. The length of a second as inwhich the length of a period of time is dicated by the one recorder is represented. Strictly speaking, there sented by 18 ins. and the interrupthould be a distinction between the tions in the other record, therefore, Cs. are also used to indicate the period of transit of a star, to estimate the velocity of sound, and to measure accurately certain muscular movements, when the stylus may be moved by the muscle itself. For physiological uses of Cs. see Stirling, Outlines of Practical Physiology.

Chronology (6k. xpóroz and λόγος, dlscourso, account), the science of computing and adjusting time. or periods of time, in order to ascertain the true historical sequence of past events and their exact dates. C. differs from history in that it recounts events purely with regard to their order in time and without taking into account their relation to each other. Time has from the beginning been measured astronomically, according to the revolutions of the sun and moon and to recurring celestial phenomena. The natural divisions of time are the day and night, a larger division being the lunar month. Barbaric races have generally reckoned their time by means of lunar reckoned their time by means of lunar months, without thought of dating ovents from a fixed epoch. The early civilised races, however, regulated their time from a fixed epoch, each choosing a great event in its national history from which to date all other events, both prior and subsequent to it. The epoch universally adopted in modern times is the birth of Christ, the years before it being marked B.C., and those after it A.D. (Anno Domini). the number of vibrations in a period. The moving surface is generally cylindrical in form, and smooth enough to offer little resistance to the stylus. The surface is graduated by lines at right angles to the direction of its motion, and it is obvious that the greater its velocity the more graduations will be covered in a given period and the more possible it will be to ascertain small fractions. The stylus is in most cases applied and released by hreaking or establishing an electrical circuit. In the Bashforth C. for determining the velocity of shot, there are two recorders: one is controlled by an electro-magnet in circuit with a series of screens placed at known distances apart. When the shot passes through a series, it is places a weight which breaks the cleral which breaks the at known distances apart. When the shot passes through a screen, it displaces a weight which breaks the clrcuit, which is thon almost immediately automatically re-established through the second screen; it is again Hipparchus and Ptolemy, and was

dated from the supposed creation of the world, 5508 years and four months before the beginning of the Dionysian Alexander, counted from the case will be deleted, sept. 1, 323 R.C.; the era of the Selectidee, also known as that of the Macedonian era, beginning Sept. 1, 312 R.C. and commemorating the capture of Babylon by Selectus and Abyssinians); the Mohammedan the capture of Babylon by Selectus and Abyssinians); the Mohammedan the calendar; and the era of Spain by the Romans. 38 R.C. The Greek and Roman methods of reckoning continued long after the birth of Christ. From 312 A.D., however, the greek remailmode of computationthroughout the Roman empire was by a system known as Indictions, which were cycles or periods of fifteen years, beginning with the year 312. Indiction of Constantinople, beginning sept. 1, 312 A.D.; the Imperial Indiction beginning Sept. 24, 312 A.D.; and the Pontifical or Roman Indiction, beginning Dec. 25, 312 A.D.; and the Pontifical or Roman Indiction, beginning Dec. 25, 312 A.D.; and the Pontifical or Roman Indiction, beginning Dec. 25, 312 A.D., or Jan. 1, 313 A.D. The method of reckoning from the birth of Christ was first invented, as has been mentioned above, about 533 A.D. The Dionysian year began on March 25, from the Annunciation. If the date of man's creation on this earth could possibly have been established, that would form the most convenient

used by astronomers because its ing of time and to date the events of calculations were based on celestial history. The great objection to the phenomena. The Roman era dated from the foundation of the city of its, of course, that it is divided into Rome, which is generally accepted, its parts, which necessarily involves from the computation of Terentius a certain amount of confusion in Varro, as 753 B.C. Verrius Flaccus, reckoning. Furthermore, as the year bowever, placed it a rear later, immediately preceding the birth of whereas M. Porcius Cato gave it as Christ is called 1 B.C., and the year 751 B.C. Polybius as 750 B.C. and immediately following it 1 A.D., the Fabins Pictor as 747 B.C. The years were denoted by the letters A. U. C. Joseph Justus Scaliger tried to anno urbis condita. 'in the year of obviate these difficulties in 1552 by the founding of the city.' Another, this invention of what is known as common method of reckoning among the Julian period. His period beran the first part of the control of the city.' Another the self-control of the city.' Another the period beran the first period to the period peri common method of reckoning among the Julian period. His period beran Latin historians was by the annual 4713 B.C., so that the year 4714 of the consulships. Not infrequently both Julian period corresponded to 1 A.D. the year of the city and the names. He also estimated 7950 years in a of the consuls are given. The dates Julian period. According to the according to various eras can easily Septuagint version of the Bible, the be transferred to each other or to the creation of the world took place Christian era by arithmetical calcuition. For example, to change from and 2250 years before the birth of Christ, lation. For example, to change from and 2250 years before the flood. The the Roman to the Christian era. If the Hebrew version reckons 4000 years date is before the birth of Christ the from the creation to the birth of Pages of Rome should be subtracted. Christ and 1656 from the creation iation. For example, to change from and 2250 years before the flood. The the Roman to the Christian era, if the Hebrew version reckons 4000 years date is before the birth of Christ the From the creation to the birth of years of Rome should be subtracted. Christ, and 1656 from the creation from the date is after the birth to the flood. The Samaritan version, of Christ, 754 should be subtracted however, allows for an internal of from the years of Rome. Other eras of only 1307 years between the creation of note are the era of Constantinople. mog . cientists and ' first few chapters of Genesis, the creation of the world cannot be fixed with any before the beginning of the Diouysian chapters of Genesis, the creation of or Christian era: the era of Alexander, counted from the date of the place at a far earlier period Alexander, counted from the date of than any suggested above. The chief his death, Sept. 1, 323 B.C.: the era eras that date after the birth of Christ of the Seleucidæ, also known as that are the Diocletian, or era of martyrs, of the Macedonian era, beginning 284 A.D. (still in use among the Copts Sept. 1, 323 and commonwhiting 1824 A.D. (still in use among the Copts

possibly have been established, that in different places. When Julius would form the most convenient point from which to start the reckoning of a year. This was used in

England as the first day of the year an induction coil. The circuit is from the time of the Conquest till broken in each case by the passage of from the time of the Conquest till 1155. After that date, March 25 was regarded as the heginning of a year in conformity with the continental custom. In 1582 Popo Gregory XIII. reformed the calcudar, and introduced what is known as the 'New Style.' During the 16th and early 17th century, the New Style, with Jan. 1 as New Year's day, was adopted by most of the European Powers, inclnding Italy, France, Germany, Spain, and Portugal. England, with Russia and Sweden, adhered to the Old Style nntil 1751, when Lord Chesterfield took the matter up and tried to rouse interest by his con-tributions to the World. 'It was not,' he said, 'very honourable for England to remain in a gross and avowed error, especially in such company. The English calendar was hy comparison with the continental, eleven days out, and Chesterfield, in collaboration with Lord Macclesfield, the mathematician, and Bradley, the was to be called the protection of the physical concession to Rome, and the popular opposition election ery was "Givo us back our eleven days." Consult Scaliger, De Emendatione "Scaliger, De De Concession to Concession t astronomer, drew up a schemo and

Chronoscope, an instrument which indicates the length of a short period The term is applied to an apparatus for measuring the period of certain iuminous phenomena of which the eye can be no accurate judge, on account of the persistence of a sensation in the retina. It consists of a rapidly moving mirror, which, owing to its motion along the circumference of a circle, reflects a fleck at the latter of the circumference of the circle reflects a fleck at the latter of the circumference of the circle reflects a fleck at the latter of the circle results of the latter of th flash as a luminous are; the length of the arc thus indicates the duration of the flash. Sir Andrew Noble invented a C. which might more accurately be called a chronograph. A scries of plugs is arranged so as to project inside the bore of a gun, each forming part of the primary circuit of

the shot, and the spark passing between the terminals of the secondary produces a spot on the edge of a rapidly rotating disc which is coated with lamp-black. There is a disc to each plug, so that the positions of the spots enable the velocity of the shot to he ascertained. See CHRONOGRAPH.

Chrudim, a tn. of Bohomia, 62 m. S.E. of Prague, sltuated on the Chrudlmke. It is noted for its horse markets, and has manufs. of cloth

and sugar. Pop. 13,500.

Chrysalis, or Chrysalid, the term applied to the pupa of an insect, but especially to that of a butterfly or moth. It is essentially the restingstage of the creature's life, when the larva having stored up much food, the perfect insect is built up from the disintegrated tissues. The pupa may be exposed or within a cocoon.

Chrysanthemum (Gk. χρυσός, gold, ανθέμον, flower), a genus of Compositæ, contains about 150 species of varied and beautiful plants which are

the ox-eye or dog-daisy, is a well-known meadow plant with white ray florets and yellow disc-florets; C. frutescens, the Paris daisy or marguerite of France, is grown as a garden plant and somewhat resembles C. leucanthemum; C. parthenium, the foverfew, has small flower-heads, and is used as a remedy for slight feyers. C. earington, the for slight fevers; C. carinatum, the tricolor daisy, comes from Barbary and is an annual cultivated in Britain: C. Arcticum is a small species with pink and white florets.

Chrysanthemum, Order of the (Kikkwa Daijasho), was instituted in 1877 by the Emperor Musto Hiti of Japan, and is conferred on members of the royal house and on foreign princes. The badge is conventional in design, with a red sun in the centre, sending forth white and gold rays, separated into four groups by a yellow chrysanthemum with green leaves, the whole hanging from a larger yellow chrysanthemum. There is also a collar, which may he given some time after the badge. Its design consists of yellow chrysanthemums, green leaves, and a wreath of palm.

Chryseis, the daughter of the Greek priest, Chryses. Achilles, by his rapo of C., had callod down the wrath of Apollo, who sent a dreadful pestilence in token of his disploasure. When Calchas, the seer, revealed the cause of the god's anger, Achilles, on the demand of Agamomnon, the king, was ohliged to restore C. to her father, but insisted on receiving Agamemon's slave, Briseis, in compensation. Homer in his *Hiad* teils the disastrous sequei to the strife which thus arose between the two champions of

tho Greeks.

Chryselephantina (Gk. χρυσός and ἐλόμας, ivory), the adjective used to describe the gold and ivory statues of the Greeks, by far the most famous of which were the colossai Zeus at Olympia and Athena in the Parthenon of Pheidias. A development from wooden images where flesh was painted white and drapery gilded, these C. statues were built up on wooden or clay eores, by attaching thin plates of ivory (to represent flesh tints) and gold. The preciousness of the materials amply accounts for the non-survival of any illustration of this art.

Chrysidide, a family of insects, in the series Aymenoptera Tubulifera, consists of near allies of the true wasp which are called popularly ruby-wasp or golden-tailed flies. They are hrightly - coloured ereatures with wings moving so swiftly as to make them invisible, and in liabit they are parasite in the nests of bees and wasps. Ch. ignila is a common

British species.

Chrysippus (c. 280-206 B.c.), a Greek philosopher, and one of the leaders of the Stoic school of philosophy, born at Soli in Cilicia. He came to Athens and studied under Cleanthes. His skill in argument and his impartiality and reasonableness earned him the name of the 'Column of the Portico' (Stoa). He saved the doctrines of the Stoics from extiaction. He wrote 750 treatises, of which only fragments survive; some of them are preserved in the MSS. found at Herculaneum.

Chrysis, a genus of 'insects, is typical of
or ruby-wasp family.

The badge is conventional lays her eggs in the nest of other with a red sun in the centre, lorth white and gold rays, into four groups by a tho C. is a brilliantly-coloured and by some them by the green very active creature.

Chrysobalanese, one of the suborders of the natural order Resacces, formerly considered to be a distinct natural order. Warming, however, has classed it as a sub-order of Resacces, a position it now usually holds. The sub-order centains the typical genera Hirtella and Chrysobalanus. The species are tropical trees and shrubs, often bearing the name of plum. C. Icaco, the eccea plum, is a native of the W. Indies, where the fruit is considered to be a

delicaey.
Chrysoberyl, a crystallised mineral, generally of a green colour, translucent, and having a vitrous iustre and conchoidal fracture. Specific gravity, 3.8; hardness, 8.5. It consists of alumina, 77.0; gueina, 17.5; protoxide of iron, 5.0; other matters, 0.5. A few specimens are met with uncrystallised. It is found mostly in Cevion and Brazil. When the green is very pale it is often called oriental chrysolite. It crystalises into six-

sided crystals.

Chrysocbiora, a genns of Diptora established by Latreille, beiongs to the family Stratiomyidæ. In colour the insects are golden green, or black and yellow, in build they are large and stout, and the countries they

frequent are tropicai.

Chrysochloridæ, a family of insectivorous mammals containing a single genus with about half-a-dozen species known as Cape golden moies. The Chrysochloris has mole-like habits, and its eyes are covered with skin, but it has only four digits on its fore-paws, while the mole has five. It has no tail, and the ears lack pinnæ. Ch. Capensis, the Cape chrysochlore, has a velvety fur of metallie colour, burrows underground, and feeds on worms and insects.

Chrysocolla, an ore of copper, being the hydrated silicate of that metal. It is of a bluish colour, and found in large quantities in the Mississippi valley and in smaller quantities in Cornwall and Cumber-

land.

Chrysocoma, a genus of composite plants, is indigenous to S. Africa. C. linosyris is rarely found in limestone cliffs of Britain; the plant is fleshy with yellow flowers.

Chrysodon, the name given by Oken to some annelids which are now included in the genus Amphibrite.

Chrysolita ('golden stono'), a of a pale greenish colour, ising in right rectangular It is a silicate of magnesia and protoxide of iron, the formula being 2(MgFe)O,SiO. It is mostly fragacea, occurs in mild countries, used in jewellery, and is occasionally found in rounded masses, hnt nsually as a constituent of hasaits and lavas. The common form of the mineral is olivinc, which is of an olive golden saxifrages.

Chrysoplenium, a genus of Saxifragacea, occurs in mild countries, its species being herbaceous plants with pale green flowers. C. alternia and lavas. Following and countries of Britain, and are called golden saxifrages. The, green or brownish colour. crystals are positively doubly re-

fractive. Course, Manuel or Emmanuel its principal constituents are, of (c. 1355-1415), one of the chief in course, crystalline and amorphons troducers of Greek literature and silica combined to give differential learning to Western Europo, horn at effects, but the fine apple-green Constantinople; he studied under the colour is given by the presence of philosopher Gemistus, and was sent nickel oxide. n 1383 by the Emperor Manuel Cbrysops, a genus of Tahanidæ, con-Palæologus to Italy to beg for help tains several species of flies known by against the Turks. On his return he to ominous name of cleg or gad fly, was invited by Florence to reside in and noted for their large and beauti-the city and teach Greek. Here he full green-gold eyes. The insects are lived for three years, travelling much in Italy, his translation of Plato and Homer becoming famous. He went on an embassy to Germany in 1413 to fix on the place where the approaching general council of the church was to meet, and he represented the Greek Church in the train of John XXIII. at Constance where he died suddenly. His printed works are two only: Erolemala, a Greek grammar, and Epistolæ de comparatione Veteris et norm Rome. et novæ Romæ.

Chrysomelidae, a large family of coleopterous insects, consists of a smallish and brilliantly-coloured species. The fat little grubs and the perfect beetle are both vegetarian in diet, and many are destructive to crops. The well-known Colorado Beetle (q.v.) is a species which feeds

on potatoes.

Chrysophane, a variety of seyberite, and very similar to clintonite, of a reddish-brown colour. It occurs in

foliated masses.

Chrysophrys, а genus οſ the or sea-breams, contains Sparidæ acanthopterygious fish which inbahit warm and tropical seas. Ch. aurata, the gilt-head, is an hermaphrodite species which has been found off onr coast, but usually frequents the Mediterranean.

Chrysophyllum Cainito, or the Starapple, is a species of Sapotaceæ which grows in the W. Indies and is valued on account of its edible fruit. The plant is a moderately-sized spreading tree, and the fruit abounds in a sweet milky juice which flows copiously

smooth fruit resembling a large apple; the inside is divided into ten cells, each with a black seed, and the pulp is white or purplish. When eut across, the seeds present a stellate figure, whence the name.

Chrysoprase, a mineral variety of chalcedony used as a precious stone, more particularly on the Continent.

small, heing about onc-third of an inch long, but they are large enough to cause considerable irritation when indulging in their blood-sucking propensities. C. cacutiens and Ch. relictus have an unenviable notoriety.

Chrysostom (Gk. Xρυσόστομος, the golden-mouthed), St. John Chrysostom (c. 345-407), one of the great fathers of the Christian ehurch, also known as John of Antioch, born at Antioch. Ho attended the school of the sophist Libanius, and showed such remarkable powers of mind that he would have guesceded his teacher. he would have succeeded his teacher as the head of the school had not the influence of his mother and many Christian friends persuaded him to he baptised, ahout A.D. 370. For ten years ho lived in the desert, studying theology, but his austerities led to a severe illness, and he returned to Antioch, where he was ordained. After another ten years' strenuous work in Antioch be was made Archbisbop of Constantinople, and be-came one of the most famous preachers of the age. His knowledge of buman nature was keen and deep, and his eloquence made him as many enemies as adherents. His sermons in St. Sophia were directed not only against the Arians but even more against the licentiousness of the Imperial court and the idleness and vice of the innumerable monks who thronged the city. The Arians at this time had no place of worship and met at night outside public buildings, where they sang hymns expounding their doctrines. To counteract their 'rifluence on the orthodox, C. arranged

system of nightly processional ymn singing, the first example of hymns combined with a service. Riots ensued and much bloodsbed, the Empress Eudoxia's chief eunuch being slain. In order to condemn C., Theophilins, Bishop of Alexandria, summoned a synod which met at

Chaicedon through fear of the fury of the people of Constantinopie, who were the ardent supporters of their archhishop. He refused to appear, was condemnod on the charge of Origenism and contumacy, and was removed to Nicea in Bitbynia. The fury of the populace was so aroused that ho was hastily brought back to Constanti-nople, but two months later he was onee more exiled, this time to Cucusus in Cilicia. From here he wrote many of his greatest sermons and letters, and planned missions to the Persians and Goths. His vindictive enemies then secured his removal to the far desert of Pityus, and on his way there he died. Fresb riots way there he died. broke out in Constantinoplo at the news of his death, and peace was not finally restored until his bones were brought hack thirty years afterwards. His festival in the Greek Church is on Nov. 13, in the Latin Church Jan. 27. The prayer of St. C., that stands last The prayer of St. C., that stands last but one at the end of Matins, Evensong, and the Litany in the English Book of Common Prayer, is taken from the Liturgy of St. Chrysostom. His works are voluminous, and nearly all have heen preserved. See Oxford Library of the Fathers; and Lives, hy W. R. W. Stephens, 1871; R. W. Bush, 1885; and A. Peuch (Paris) 1891.

1885; and A. Peuch (Paris), 1891. Chrysostomus, see Dion Chrysos-

TOMUS.

Chrysothrix, the genus of squirrel monkoys, helongs to the family Cehidæ (q.v.). It consists of four species, all of which are arboreal, insectivorous, and gregarions; the long tail is non-prebensile and the face is small.

Chrzanow, a tn., 25 m. W. by N. of Cracow, in the crownlands of Galicia,

Austria. Pop. 10,170.

Chu, a riv. some 570 m. in length, in Thrkestan, Asiatic Russia. Hising In the Tian Sbian Mts., in the W.S.W. of Lake Issyk-kul, it is first known as the Koshkar. Passing within 3 m. of Issyk-kul, it sworves into the gorge of Bnam, and leaving Tokmak behind flows on towards Lake Saumulkul, disappearing in the desert 125 m.

before reaching it.

Chianchow-ful (called Chinchew by the Britisb), an anclent port and walled city in the prov. of Fu-kien, China. There being now a great sand-bar across the harbour mouth. Chinchew has been outstripped in trade by the port Amoy, whilst it now despatches its own exports—tea, sugar, china-ware, and tobaeco—from Nganhai. The most famous bridge in China connects Clinchew with its suburb. Loyang. Marco Polo and other travellers mention Chinchow as carrying on a large traffic with Europe in the middle ages.

Chub, the name of several carp-like fishes, in the large family Cyprinide, is applied in Britain to Leuciscus cephalus. In N. America, however, it is given to the near ally, Leucosomus corporalis, and to fishes of the genus Geratichthys.

Chubb, Charles (d. 1845), a locksmith, improved the 'detector' lock, which his brother had originally patented in 1818. After managing a hardware business with 200 hands in Wolverhampton, he went to London, where he set up a factory for burglar

and fire-proof safes of his own patent in 1835.

Chubb, Thomas (1679-1746), an English deist, horn at East Harnham, near Salisbury, the son of a maitster. Apprenticed to a tallow chandler, ho educated himself on the death of his father in 1688, theology heing his favourite subject. In 1715 he wrote The Supremacy of the Father, followed by several other theological works. C. is interesting as representing a popular form of deism, and as showing the hold that rationalism had taken on the popular mind. His works also include The True Gospel of Jesus Christ, The Discourse of Miraeles,

Discourse concerning Reason.

Chubut, a territory in Sonthern Argentina, hounded on the N. by Rio Negro, on the E. by the Atlantic, on the S. by Santa Cruz, and on the W. by Chile. Connected by rail with Puerto Madryn on the Bahia Nueva, it is nevertheless the difficulties of transportation that lindor further development. Rising in the Andes, the river C. flows straight across to the Atlantic. The Songuerr discharges into Lake Colhuapi, other lakes of size heing La Plata and Fontana in the Andean highlands, and Musters in the interior. Save for the fertile, forested valleys on the Andean border, the wholo country is an arid pebblostrewn waste, clothed with stunted vegetation. Nevortheless, there is a Welsh colony near the C. mouth, with Rawson as its capital and Madryn (44 m. distant) as its chief port. Total area, 33,427 sq. m. Pop. 9060.

Chuebing-fu, or Kiutsing-fu, a weilfortified city 78 m. E.N.E. of Yunnan-fu, in the prov. of Yunnan, S.

China.

Chudleigh, a tn. in Devonshire, England, 8 m. S.W. of Exeter. In 1807 it was almost destroyed by fire, but was rebuilt. It is noted for eider.

Pop. (1911) 2005.

Chudleigh, or Chidley, a promontory on the N. coast, at the entrance of Hudson Straits in Labrador, Canada. Chufut-Kaleh, a deserted tm., 24 in. E. of Bakhchl-Sarai in the dist. of

E. of Bakhchl-Sarai in the dist. of Simferopoi and the government of Taurida, Russia. Perched on precipi-

Chugúyev

tous and well-nigh inaccessible cliffs, 1835 ft. above sca-level, it was in the 15th century the refuge of the Karaite Jovs from the Crimea. Be-tween C. and Bakhehl-Sarai is the Uspenskly monastery, clinging like a limpet to the cliff face:

Chuguyev, a tn. on the r. b. of the Northern Donets, 241 m. E.S.E. of Kharkov, in the government of Khar-

kov, Russia. Pop. (1897) 11,877.
Chu-hsiung-fu, a tn. 77 m. W. of may Yunnan-fu, in Yunnan, China.
Chukchi (Men. or the Tuski, Con-Ru

their languago resembled Koryak, China. Built on a rocky cape, it is not Eskimo, and sums up his discussion of their racial characteristics by saying that they bear an unmis-takable stamp of the Mongols of Asia and the Eskimo and Indians of America. The C., who are divided into the poor Fishing C., with fixed homes, and the comparatively well-to-do and nomadic 'Reindeer C.,' who breed great herds of reindeer and live on their milk and flesh, are tall and lean, with thick lips, coarse lank black hair, and puffy checks which often completely wrap in the nose.

for men slain by violoneo. Ostensibly Christians, they practise polygamy, and are victims of their own superstitious faith in mountain and

other spirits.

2 m. from m. S.E. of England.

itural ap-Jsh Indla, edition_to

Thassa in 1904 advanced. Flanked by Bhutan and Sikkim, it lies on the southern slopes of the Himaiayas at an elevation of 9500 ft.

Chumbul, or Chambal, an unnavigable river (514 m. long) of Central India, rising in Malwa, near Mau, and joining the Jumna, W. of Cawnpur.

Chunam, the Indian name for quicklime, made from very pure limestone or from calcined shells. It is used as an ingredient for plaster, when it is well mixed into a paste, together with fine river-sand and laggery (coarse sugar). It is also wrapped upwith small pieces of boiled betel nut in the leaf of the betel vinc. This mixture is commonly chewed among Orientals as a mastleatory.

Chunar, see CHANAR.

Chunchos, The, a savage people who dwell in communal houses and live by hunting in the forests E. of Cuzeo, Central Peru. They are an independent tribe of S. American Indians, not unlike the Antis. But the term C. has also been referred to one of the three aboriginal peoples of Poru.

Chunchuses, a warlike tribe of in parts ma In the

lapanese ceted of bribing these freewreck the railroads. They o suzorainty of China.

ing-fu, a river port at the of the Yangtse and the 32 m. abovo Hankow, in

surrounded by a stone wall, 5 m. in circumference, eight of whose gates givo on to the water. Opened to foreign trade since 1891, it now im-ports on large junks from Ichang cotton and metal manufactures, sending down in roturn opium, wax, siik, rhubarb, and hides, which are afterwards distributed through tho Hankow, Shanghai, and other districts. of China passes between Chungking and Kiangpeiting, on the opposite side of the Kialing. Rapids and suddon floods impedo steamer traffic between Iehang and Chungking. The total value of imports and exports in 1904 was £4,214,568. pop. is about 300,000.

Chunian, a tn. in the Punjab dist. of British India, 45 m. S.S.W. of Lahore. Pop. 10,300.

Chupanga, or Shupanga, a vil. of Portuguese E. Africa, on the r. b. of Lower Zambesi R. The scenery is beautiful, but the district maiarial. The wife of Llvingstone, the explorer and missionary, was buried here (1862).

Chupra, see Chapra.

Chuquisaca, or Charcao, a dept. in Bolivia lying between the Andes and the Paraguay R., forming the S.E. corner. The capital town is Sucre. It covers an area of 26,400 sq. m. Pop. 240,000.

Chuquisaca, or Sucre, the cap. of Bolivia, S. America. Situated 9343 ft. above sca-level, it enjoys a particularly mild climate, and has a fine cathedral and a university.

32,416.

Chuquito, Chucuito, or Chucuyto, a prov. of Peru, also cap. of this prov., 12 m. from Puno, on W. of Lake Titleaca. There are silver and gold mines, woolien manufactures, dyeing of vicuna wool. Prehistoric remains have been found. Pop. 5000.

Chur, see Coire.

covering the whole or part of the field. Here we shall deal only with fathers. In the 2nd century, Hegesipchurch, hut only a few fragments remain. Eusehius of Cæsarca, who wrote in the early part of the 4th cen-tury is known as the father of church history.' He gave an account of the church of the first four centuries, and his work was continued in the next. Neander, and mention must be made century by Socrates, Sozomen, and Theodoret. All these were produced in the E., whence no important church historian hut Nleephorus Calon the subject. See CHURCH.

Histius in the 14th century has arisen Chura, a feudatory state of Kathia-isin e. Rufinns translated Eusebius' war, Gujarat, India; also capital of History into Latin, and fresh consame, 56 m. from Camhay. Pop. 5500. tinuations were made by Theodorus Church History, the history of the Lector, Evagrius, Theophanes, etc. Christian church and religion, dealing A translation of the works of Socrates. not only with external matters such Sozomen, and Theodoret was made by as its extension and its political and Cassiodorus in the 6th, and this comsocial relations, hut also with its pound work known as the Historia social relations, but also with its more development in doctrine, ritual, and ceremonial. C. H. is divided into three main periods: Ancient, usually dated to the end of the pontificate of Gregory the Great (A.D. 590), but carried by some to Charlemagne's foundation of the new empire (A.D. 190): Medieval, which closes with the Reformation; and Modern, from the Reformation to the present day. It is impossible here to give even a sketch of these three periods but is that of the Dominican Antoninus sketch of these three periods, but is that of the Dominican, Antoninus reference will be made to many works of Florence (archbishop, 1446-59), whose work is often modern in its aspect. Since the reformation there the development in the treatment of has been a steady stream of histories, C. H. Our earliest documents consist at first largely polemical. The Magdeof the hooks of the N.T., and various burg Centuries was a Lutheran atscraps of information contained in the tempt to show the primitive nature of letters and writings of the early Protestantism, and called forth the Annales Ecclesiastici of the Roman pus, a Jewish Christian, compiled Catholic Baronius, who was later folsome memoirs of the carly days of the lowed by Natalis Alexander, Bossuct, Tillemont, etc. The scientific and critical era of church histories hegan with the German Mosheim, who was followed by Schröckh, Scmler, Planck, and a host of others. The names of Neander and Baur rank with that of

END OF VOL. III